

THE BOSTON Medical and Surgical JOURNAL

VOLUME 197

NOVEMBER 10, 1927

NUMBER 19

NEW ENGLAND BRANCH OF THE AMERICAN UROLOGICAL ASSOCIATION*

The program was as follows:

CASE REPORTS

1. Report of Two Cases Illustrating That Repeated Miscarriages May Be Due to Pathology in the Male Genital Tract.

Dr. Morris B. Sanders, Boston.

2. A Case of Papillary Carcinoma of the Renal Pelvis.

Dr. B. D. Wetherell, Boston.

3. Soft Stones Removed from the Urinary Bladder.

Dr. Homer G. Hamer, Indianapolis, Ind.

PAPEES

1. The Twentieth Year of the New England Branch of the American Urological Association.

Dr. J. D. Barney, Boston.

2. Enlarged Pyelotomy for Stone.

Dr. Homer G. Hamer.

3. Discussion of Dr. Hamer's paper by Doctors Crabtree, Quinby, Keefe, Jones, Barney, Graves, Hamer—in the order named.

THE TWENTIETH YEAR OF THE NEW ENGLAND BRANCH OF THE AMERICAN UROLOGICAL ASSOCIATION

BY J. DELLINGER BARNEY, M.D., F.A.C.S.

THE next business is a recitation of the history of this Society which has been allotted to me. Twenty-one years ago tonight (lacking five days), namely, on March 6, 1906, a group of men from Boston and the New England cities, all of whom were members of the American Urological Association, met and decided that it would be a good thing to have a New England Branch of the American Urological Association. After the usual preliminary discussion Dr. Hugh Cabot called the meeting to order and after further discussion Dr. Chute nominated Dr. Cabot as temporary chairman. Whereupon Dr. Cabot nominated the late Dr. Henry J. Perry as secretary. With that start they organized themselves more definitely and appointed officers. The first president was the late Dr. Oliver C. Smith of Hartford, and Dr. R. F. O'Neil was the first Secretary and Treasurer, and the members of the Executive Commit-

tee consisted of the following: Drs. F. J. Cotton, Massachusetts, Benjamin Tenney, Massachusetts, B. B. Foster, Maine, Roy H. Peck, Vermont, John W. Keefe, Rhode Island, and E. J. McKnight, Connecticut. Dr. J. W. Keefe is still serving and is just as young-looking as he was then.

With that beginning the Society has gone along taking in new members until now we have 84 members including those we have elected tonight.

The object of the Society was to encourage the study of the medical and surgical diseases of the genito-urinary tract but it did not attempt to include men in its membership who were doing exclusively that sort of work. It now includes men who are doing this primarily but also men who are interested in the subject.

Some of the younger members may not realize that twenty years ago urology was in its infancy. Dr. Quinby and I were among the first members, and at that time, 1906, Urology as a specialty was practically unknown and no one practiced it exclusively. But now many are doing it exclusively and very well so that you might say that those of us who started at that time were pioneers in that line. Dr. Francis Watson was doing this work to a considerable extent at that time. There was no department of urology at the Harvard Medical School. My memory goes back to the time when a cystoscope was considered a toy and to do a cystoscopy was quite an event. I remember that the man who did a cystoscopy was quite a fellow and the patient was a hero. We had lamps which were hot lamps; and catheterization of the ureters was a matter of uncertainty. At that time X-rays were taken in a room about as big as a closet by the late Dr. Walter Dodd at the Massachusetts General Hospital; and the taking of an X-ray was quite an event. I remember Dr. Cabot and Dr. Watson needling the kidney to find a stone, and many times they would close the kidney without getting out the stone. Such a thing as functional tests of urine were not done.

All this has happened in my day so that you can see that urology is a comparatively recent specialty which has come along and made rapid

*Meeting held at the Harvard Club, March 1, 1927.

strides, and our refinements of diagnosis are unbelievable compared with what they were in those days.

So we have reason to be encouraged by the progress which we have made. More progress is still to be made in the matter of diagnosis and operating and in getting cancer at an earlier stage so that we may prolong a patient's life if not save him.

That, roughly speaking, is the history of this Society, and we hope it will go on and enlarge in its scope and its membership as it has in the past.

REPORT OF TWO CASES ILLUSTRATING THAT REPEATED MISCARRIAGES MAY BE DUE TO PATHOLOGY IN THE MALE GENITAL TRACT

BY MORRIS B. SANDERS, M.D.

THE researches of Dr. George L. Streeter and associates of the Carnegie Laboratory of Embryology at Johns Hopkins have shown that intra-uterine mortality may be due to a germ plasmodium—either that of the ovum or the spermatozoon. In work not yet completed, Macomber and I have found that bilateral vesiculectomy in the rat has caused a definitely increased intra-uterine mortality, the etiological agent of which, we are not yet certain about.

This evening I would like to present the salient facts in two cases which we have had under observation, illustrating, that with a history of miscarriages, pathology of the male genital tract may be the cause.

The first case (5402) was a man of 40 of sedentary habits with no venereal history, who had been married twice. Shortly after his first marriage, his wife conceived and had a normal child. 3-4 years later there was an early miscarriage. This first marriage lasted 11 years. He was married a second time 13 months previous to his first examination. There was a miscarriage of 2 months some six months after marriage and another miscarriage of 2-3 months, three weeks before entrance. Currēttings of the first miscarriage showed a blighted ovum; of the second, only decidua was found as the miscarriage had been partially completed. His wife was reported to be normal.

Physical examination was normal except for underweight. Locally the right seminal vesical was enlarged but not tender. The prostate was somewhat boggy and tender. The secretion showed an excess of mucus and 10-15 pus cells per high power field—no clumps. Examination of the semen showed a normal number of spermatozoa but there was a definite excess of mucus and pus cells; the vitality of the spermatozoa was poor and there was an increased number of abnormal forms of spermatozoa.

The prostate and seminal vesicles were given a course of massage. Examination after treatment showed a reduction of mucus and pus cells (2-4 per high power field) and the vitality and morphology of the spermatozoa were markedly improved.

Precautions were removed and in 3-4 months his wife became pregnant and had a full term normal child in June 1926.

The second case (5421) was that of an athletically inclined executive of 39 with no venereal history.

His wife had had four normal pregnancies, the youngest child being 6 years old. There had been a miscarriage at two months one year previously and a second one a few weeks before the first examination. The embryo of the second miscarriage was examined at the Carnegie Laboratory of Embryology whose report showed its development was that of 11½ weeks and had remained many weeks as a dead mass in the uterus. Examination showed that the wife was normal.

Physical examination showed that the man was also normal. Locally the seminal vesicles were not felt. The prostate was little, if any, enlarged; not very boggy or tender. There was, however, a large amount of secretion which showed large flocculi of pus macroscopically. A re-examination of the prostate a month later showed its condition essentially the same. The semen showed an excess of mucus and many clumps of pus cells. The number and morphology of the spermatozoa was normal. The vitality of the spermatozoa, however, was poor, practically all of them were either caught in area of mucus or dead within a few minutes.

The prostate and seminal vesicles were treated by a course of massage with a consequent reduction of pus cells to 0-3 per high power field. Two months after the last treatment, the semen showed the vitality of the spermatozoa markedly improved.

Precautions were removed and shortly after, conception took place, and after a full term pregnancy, a child was born September 1926.

In conclusion: I have presented two cases showing repeated miscarriages, in both of which, the wife was normal. The first case was a man essentially normal except for a non-venereal Vesiculo-Prostatitis; and the second a man whose only pathology was a non-venereal Prostatitis. Treatment of these conditions resulted in a sufficiently increased fertility to cause a pregnancy to go through to full term.

A CASE OF PAPILLARY CARCINOMA OF THE RENAL PELVIS

BY B. D. WETHERELL, M.D., F.A.C.S.

A few days after reporting a well defined encapsulated hypernephroma of the kidney, we operated on a man whose pyelogram showed a typical deformity as usual in hypernephromas. His history in brief was that some three years ago he thought once that he passed blood. In September 1925, after a vigorous day in camp, he passed some blood. This cleared up in 24 hours. Two months later, which was then about a year ago, he passed some wine colored urine. Then there was nothing until he passed some blood clots seven months ago. After 24 hours this cleared up after he had been in bed for 3 days. Everything went along very serenely until three weeks ago when he was feeling very well and took a three mile walk. After that he passed some bloody urine. Two days later he passed more bloody urine. Physical examination was entirely negative. An observation cystoscope revealed nothing abnormal in his bladder. His blood pressure was 170/80. He was advised to have some x-rays. The report was as follows: "Plates taken of the kidneys show no evidence of stone in the kidneys, course of ureters, or bladder. There is considerable sand in the prostate. The left kidney is larger than the right. The spine shows hypertrophic arthritis and there is some arthritis in the sacro-iliac joints. There is a bit of calcification in one of the high glands."

The patient was then advised to have a pyelogram made, which he did. Ureter catheters were passed easily to both sides without any obstruction. The

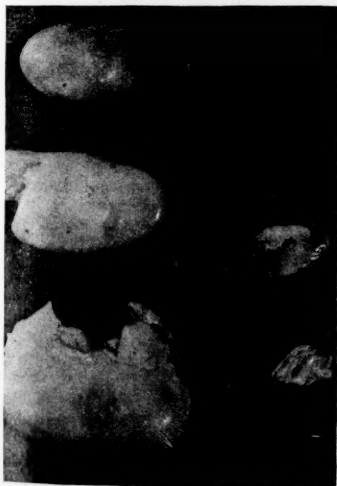
bladder again appeared negative and 12 cc of bromide were injected into the left kidney pelvis. "Pyelogram of the left kidney shows an irregular area in the upper portion of the pelvis extending out to the first calyx; the kidney area is dense and the condition we believe is due to a new growth in the kidney probably a hypernephroma. There is no evidence of stone. The right kidney is normal." (Shown)

Cystoscopy: The urine obtained from the right ureter showed no pus, few blood cells as one might expect from ureteral catheterization, with no casts, crystals or bacteria, but the left showed a few pus cells with a pretty good amount of blood, a rare hyaline cast but no crystals. The intravenous renal function showed 18% from the right and 8% from the left.

In view of these findings the patient was advised to have his left kidney removed and after a good deal of fussing he finally consented. A transverse peritoneal left rectus incision was used, taking out a pretty good sized kidney. (Shown) On opening the kidney, much to our surprise the pelvis, especially the upper part was entirely filled with a papillary growth the pathological report of which is as follows: "The pelvis is filled with a spherical papillary tumor mass in its upper two-thirds. It apparently has its origin from the surface of the pelvis. The renal parenchyma about the periphery of the growth is compressed and atrophied. There is no gross evidence of invasion. Microscopic examination shows a papillary growth rising from the surface of the pelvis, composed of long slender stalks with loose fibrous connective tissue centers covered with many layers of atypical high columnar epithelium. The epithelial cells show occasional mitotic figures and superficially invade the pelvis. Diagnosis: Papillary carcinoma."

SOFT "STONES" REMOVED FROM THE URINARY BLADDER

BY H. G. HAMER, M.D., F.A.C.S.



"Soft Stones" removed from the urinary bladder.

Mr. J. B., age 56, for the past ten years had had periodical attacks of pain in his left loin, sometimes requiring morphia. He also had some difficulty of urination.

In May, 1925, a stone was removed from the left kidney. The kidney was said to be badly damaged. Following this operation he had complete retention and became dependent upon the catheter. In July, 1926, I excised a prostatic bar by suprapubic cystotomy. He left the hospital with a small suprapubic fistula but could empty his bladder.

In October, 1926, he developed an abscess in the left loin which was opened, the abscess discharging about 500 cc of pus. His suprapubic fistula soon closed. In December the loin sinus ceased to drain but bladder disturbance recurred. Urination became frequent and painful and the urine was cloudy with pus. In January I made a cystoscopic examination and found several calculi, dull white in color and varying in size.

A suprapubic cystotomy was done and the four dull white, egg-shaped bodies, here presented, were removed. A smaller one was removed from the prostatic urethra. The patient suffered marked bladder pain, became markedly septic, and died in ten days of pneumonia.

The pathologist's report is as follows: (Pathological Laboratory, Presbyterian Hospital, Chicago,) "In a section of the body, free in the urinary bladder, there is a diffuse necrosis with no evidence anywhere of formed tissue elements. It is composed of fibrin and necrotic debris."

ENLARGED PYELOTOMY FOR STONE

BY H. G. HAMER, M.D., F.A.C.S.

In a general consideration of renal stones it may be presumed that urologists are pretty much in accord on the following points:

1st. Most all small stones will pass spontaneously.

2nd. Symptomless stones of large size, particularly if bilateral and of the branched type, should be let alone. The latter usually require complete nephrotomy for their removal and the renal impairment resulting will usually be greater than would be produced by the stones over a period of years. Such stones frequently do not cause symptoms but may be discovered during the course of a general examination.

3rd. Multiple disseminated stones associated with infection and greatly impaired function require nephrectomy. Little benefit is to be expected from the removal of the calculus if the kidney is practically destroyed and unable to drain properly. If the other kidney is capable, the diseased one had better be removed.

4th. Stones requiring operative removal are not sufficiently similar to permit the adoption of a routine procedure. Each case must be judged upon its individual features and the procedure selected in accordance with the requirements to be met. The kidney may be fixed or movable; the stone solitary and free in the pelvis or branched with projections into the calices.

5th. The difference in prognosis between nephrolithotomy and pyelolithotomy is decidedly in favor of the latter. The added factors of risk in nephrotomy are as follows: immediate hemor-

rhage, often difficult of control; secondary hemorrhage, sometimes necessitating emergency nephrectomy at great risk; infection following incision of the infected kidney, often prolonged when suturing of the thick part of the kidney is necessary for the control of hemorrhage, and permanent impairment of function as a result of sclerosis of the renal tissue traversed by the nephrotomy incision.

All of these factors render the procedure of nephrotomy one for guarded prognosis. On the other hand pyelotomy offers a means of intervention which is usually easy of accomplishment and not attended with the grave dangers attributed to nephrotomy.

In the past pyelotomy has been deemed applicable to cases of small or medium-sized stones in the pelvis of the kidney or small stones located in the calices accessible through a pyelotomy incision. Yet stones of considerable size occupying the pelvis and having one or more branches into the calices have been successfully removed by means of an enlarged pyelotomy without the grave dangers attending nephrotomy. The recent tendency toward conservatism in surgery of the kidney has led surgeons to undertake removal of stones by pyelotomy hitherto regarded as impossible of removal except by nephrotomy or a combined operation. Extension of the field of pyelotomy is especially desirable in cases of bilateral calculi for it is in this class of cases that emergency nephrectomy for hemorrhage following nephrotomy has so often left a patient in a precarious state as regards surgical intervention for the stones in the only remaining kidney.

In so far as I am aware the first mention of a modified pyelotomy for removal of stones from the renal pelvis was by Howard Kelly¹ in 1911. Kelly described a method of transverse incision through the kidney parenchyma on its posterior aspect into the pelvis. Through the opening calculi were easily removed from the pelvis or calices and the operation was not attended by the usual hazards of longitudinal nephrotomy. Since that time several surgeons have suggested and practiced division of the parenchyma of the kidney at the hilus to enlarge a pyelotomy incision for the removal of large calculi.

Marwedel² in 1920 suggested an extension of the ordinary pyelotomy and states that he prefers an approach to the pelvis anteriorly where if it is necessary to prolong the incision into the parenchyma, the danger of cutting the retro-pyelitic artery is less.

Kelly³ also advocated the extension of the ordinary pelvic incision in an oblique direction downward and outward, to avoid injury to these vessels.

Marion⁴ in 1922 published the report of a series of cases in which quite large calculi were removed by an enlarged pyelotomy incision. In

all of his cases the stones were situated partly in the pelvis and partly in the kidney. In one of his cases the calculus was 8 cm. in length with renal branches measuring 7 cm.

The technique employed by Marion is as follows:—the kidney is exposed in the usual manner, the stone palpated, the classical oblique incision made in the pelvis and then prolonged into the renal parenchyma and guided onto the stone. The direction of the approach is previously determined by the radiograph and then by the direction that has to be followed in going from the pyelitic portion to the renal portion. The incision of the kidney is prolonged as far as necessary in order to extract the stone without risk of tearing. In one case a Y incision was employed, the renal parenchyma being cut in two directions in order to take out the branches that projected from the pyelitic portion of the stone. During the course of the incision the retro-pyelitic artery is necessarily cut. In comment upon the section of the retro-pyelitic artery Marion says, "I have never seen any inconvenience from the division of this vessel and if there are harmful effects on certain portions of the renal parenchyma they have not been followed by any trouble. In any case it is certain that the section of a single artery, as the retro-pyelitic, is preferable to the splitting of the entire kidney and subsequent suturing, causing stasis in so many vascular areas.

The incision of renal parenchyma by enlarged pyelotomy is attended by very little hemorrhage, in marked contrast to that which follows incision of the external border of the kidney. It is never necessary to employ provisional hemostasis as is indispensable in the classical nephrotomy.

After removal of the stone, and ligature of the two ends of the retro-pyelitic artery, catgut sutures were applied to close the opening in the kidney but not the incision of the pelvis and the pelvis was not drained.

Convalescences in Marion's cases compared favorably to convalescences following simple pyelotomy.

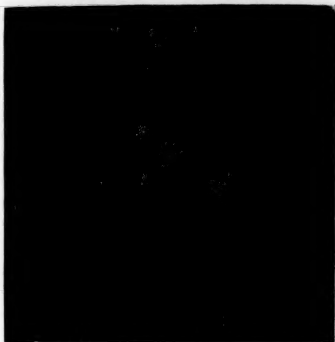
Christian⁵ in March, 1922, described a modified pyelotomy. He exposed the kidney in the usual way and after removing the peripelitic fat, drew out and exposed the posterior surface of the pelvis which he incised parallel to its axis over the stone, then extended the incision transversely, opening the inferior calyx. By means of this triangular incision a passageway into the pelvis was created large enough to admit two fingers.

Eisendrath⁶ was able to remove a branched calculus 2.5 cm. by 4.5 cm. through an enlarged pyelotomy aided by two small nephrotomy incisions. He advocates ligature of the retro-pyelitic artery and feels that this procedure renders enlarged pyelotomy as bloodless as simple pyelotomy and endorses the view of Marion that it does no appreciable harm to the kidney. Eisendrath also states that ligature of the retro-pyelitic

artery is not difficult if the overhanging parenchyma is retracted to expose the vessel.

The writer has recently operated three cases of large renal stones making use of a technique similar to that described by Christian but differing in that Christian made an angular incision in the pelvis while the writer has used a curved one. In either case the extension of the incision is in the direction of the lower calyx. I have not divided the retroperitoneal artery in any of these cases. The case reports are as follows:

CASE I. Mrs. C., age 56, was admitted to the hospital June 11, 1926, complaining of loss of weight, weakness, chills and fever, pain and soreness in the



CASE I. Large branched calculus of right kidney, removed by pyelotomy.

right loin and frequency of urination. The urine showed a heavy sediment of pus and a trace of albumin. Urological examination disclosed a general cystitis, cloudy right urine, clear left urine, separate function of 7% for the right kidney and 12% for the left by phenolsulphonephthalein elimination for ten minutes. X-rays showed no evidences of calculi in left kidney or ureter but in the right kidney area a dense shadow of a calculus filling the pelvis and calices.

Operation: On June 19, 1926, under gas anesthesia the right kidney was delivered through an oblique loin incision and the pelvis exposed. The large calculus demonstrated by X-ray was palpated and a curved incision was made in the posterior surface of the pelvis, beginning a short distance above the ureter and well towards the inner border. The incision was carried upwards over the middle portion of the stone then curved outward and downward in the direction of the lower calyx. This allowed exposure of the stone by turning down the greater part of the posterior wall of the pelvis as a flap. The nipple-like tip of the stone was delivered first, then that portion occupying the lower calyx. The stone was still held by the prolongations into the middle and upper calices, but by careful manipulation it was extracted whole. It measured 6 cm. in length and 4½ cm. in breadth. Its removal was followed by but very little hemorrhage. The cavity of the kidney was thoroughly irrigated with hot boric acid solution, a ureter catheter passed downward to the bladder from above for drainage and the incision in the pelvis closed with interrupted catgut sutures.

A rubber tissue drain was placed deep in the

wound in contact with the incision in the pelvis and the wound closed about it.

The temperature, which had been normal before operation, gradually rose to 102 and on the 3rd day there was a sharp rise to 104 after which it fell to 101 by the fifth day and after the 7th day remained normal. During this time the patient was quite sick with nausea and weakness. There was some drainage of urine through the wound for a few days but by the 10th day the wound was dry and the ureter catheter was withdrawn. Convalescence from that time on was rapid and the patient left the hospital on July 20, 1926, four weeks following operation.

A letter from her physician September 8, 1926, stated that she had progressed nicely until the day before his letter was written, when she had an attack of right sided colic requiring morphia. The next day she passed a calculus the size of a navy bean. Nothing has been heard from her since.

CASE II. Mr. W. S., a clerk, age 32, was first seen January 5, 1926. His principal complaint was pain in the right abdomen and the periodical passage of bloody urine. He had had an attack of colic two years before but did not pass a stone. There was no disturbance of urination. His urine was cloudy and showed on examination a trace of albumen, many pus cells and a few blood cells.

The ureter catheter met an obstruction on the right side at the uretero-pelvic juncture which was passed and 45 c.c. residual urine was aspirated.

No obstruction was encountered in the left ureter and X-rays were taken and right and left pyelograms made, each pelvis receiving 30 c.c. of the pyelographic medium (20% neo-silvol) without pain.

The primary X-ray showed a stone in the right pelvis the size of a bean and in the left lower pole a small calcified area.

The pyelogram of the right showed a large and irregular pelvis and blunted calices. The ureter was dilated except at the uretero-pelvic juncture where it was narrowed.

The left pyelogram showed slight dilatation of the pelvis, especially of the lower calyx and the calcification was partially obscured.



CASE II. Branched calculus of left kidney, removed by pyelotomy.

Diagnosis: Right hydronephrosis with stricture of the upper end of the ureter, bilateral calculi. Dilatations of the right ureter and lavage of both pelves were given March 19th, April 20th, May 17th, and June 15th at which time a No. 12 bougie was passed to the right kidney.

The patient was not seen again until September 17th. During the interval he had been ill with influenza and had one attack of renal colic.

X-rays now showed stones in both pelvis with prolongations into the lower calyx of each kidney.

The patient was admitted to the hospital September 30, 1926, for operation. Phenolsulphonephthalein test showed a total output of 61% for 2 hours. The non-protein nitrogen was 45 mg. Blood count; R.B.C. 5,100,000; W.B.C. 9600; Hb. 65%.

On October 5, 1926, under gas anesthesia the right kidney was exposed through a loin incision but could not be drawn out of the wound. A curved incision was made in the posterior layer of the pelvis and extended in the direction of the lower calyx similar to that described in Case I but more angular because of the small size of the pelvis.

The stone, which filled the pelvis and the lower calyx, was extracted whole.

The pelvic portion measured $2\frac{1}{2}$ cm. and the branch in the lower calyx 3 cm.

After irrigating the pelvis the edges of the pelvic incision were approximated with two catgut sutures and the wound closed about a drain inserted down to the kidney pelvis.

The temperature gradually rose to 103 on the second day but receded to normal by the 5th day. Bloody drainage from the wound and in the urine continued for two days. The wound drain was removed on the third day. The patient left the hospital with his wound healed on the 20th day after operation; expecting to return in a few weeks for removal of the stone in the left kidney. Shortly after returning home he had pain in the right side and fever. The wound opened and discharged urine. There were repeated attacks of colic and he passed at intervals five small stones.

X-rays of the right kidney area showed two small stones, one in the kidney and the other in the ureter. The ureter was dilated at intervals of two weeks until size 14F. bougie was reached. These two stones were passed and the wound again healed.

On February 3, 1927, X-rays showed no evidences of stone in the right kidney or ureter but the stone in the left kidney now fills the pelvis and two lower calices. Removal of this stone is contemplated for an early date.

In the period of a year we have observed in this man a remarkably rapid formation of bilateral kidney stones, notwithstanding the patient has been under close observation and regulation as to habits, diet, medication, etc.

It is in this type of cases, it seems to me, that conservatism in surgery of the kidney is of the utmost importance. Or perhaps this case is one of those in which renal infection and recurrent stone formation cannot be conquered.

Hunner's dictum that renal calculi are secondary to ureteral stricture finds support in the condition of this man's right kidney, but it cannot be said to apply for the left where stone formation is equally rapid.

CASE III. Mr. F. M., student, age 25, was first seen December 22, 1926, complaining of pain in the left loin of three months' duration. One attack of hematuria occurred last July following unusual exertion. Urological examination was as follows:

Urine cloudy, albumen a trace; pus cells and blood cells many. Stains for tubercle bacilli were negative. P.S.P. test 72% for two hours. Blood count; R.B.C. 5,330,000; W.B.C. 7,400; Hb. 85%.

X-rays showed a calculus filling the left renal pelvis with branches extending into the superior and inferior calices.

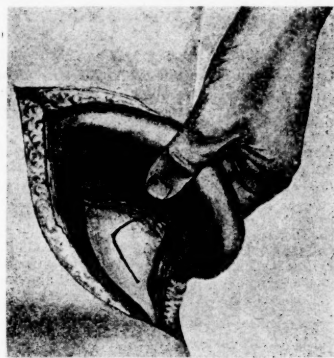
Operation: On February 1, 1927, under gas anesthesia, the left kidney was exposed and delivered

through a loin incision. The pelvis was found to be extremely small. A curved incision was made over the pelvic portion of the stone and extended in the direction of the lower calyx. Through this opening a good exposure of the middle portion of the stone was obtained but not sufficient for its removal. The upper projection was deliberately broken off. This



CASE III. Branched calculus of left kidney, removed by pyelotomy.

allowed easy removal of the portion occupying the pelvis and the lower calyx. The fragment left in the upper calyx was then removed with forceps. Upon examining the stone and comparing it with the X-ray plate it was apparent that another small stone still remained in the lower calyx not recently a part of the large stone as the end of that branch was faceted.



Enlarged pyelotomy incision for removal of renal calculi.

This second stone was felt by inserting a finger into the calyx and removed with forceps.

No effort was made to close the opening in the pelvis, other than to approximate with a single catgut suture, the flap of fatty tissue turned back to expose the pelvis.

A drain was placed alongside the pelvis and the wound closed about it.

The urine which drained from the wound, and also the voided urine, was quite bloody for several days but there was little fever.

This patient is now sitting up and there has been no urinary discharge from the wound since the end of the first week after operation though some wound infection still exists. The urine, which continued to be cloudy for a while, is now almost clear.

CONCLUSIONS

It is evident that all stones are not amenable to this method.

For the coral-like stone, for the calculus exclusively renal, or the multiple disseminated stones in the substance of the kidney, it is evident that this operation finds no indication.

For the stones of the pelvis that are prolonged into the kidney, sometimes very far but always in the same direction, a single incision suffices to deliver them.

Enlarged pyelotomy seems justifiable for those stones that have a coral-like appearance but do not penetrate into the kidney for more than a little depth. In these cases a single incision, curved or angular, or a Y shaped incision, the branches of which injure the kidney very little, suffices for the extraction of the stones.

Naturally to undertake the procedure it is necessary to have a radiograph that demonstrates clearly the characteristics of the stone and which leaves no doubt as to its shape and its direction, but shows equally the absence of fragments situated a little distance away or in totally different portions.

REFERENCES

- 1 H. Kelly: J. A. M. A., 7/1/11, Vol. LVII, 1, p. 19.
- 2 Marwedel: Zentralbl. of Chir., 1920, XLVII, 1034.
- 3 Kelly: Dis. Kid. Ur. and Bl. Wm. Wood & Co., 1914.
- 4 G. Marion: Journal D'Urologie, January, 1922.
- 5 Christian: Jour. D'Urol., Vol. XI, No. 3, Mar., 1922.
- 6 Elsdenrath: Surg., Gyn. and Obs., May, 1923, 715-717.

DISCUSSION

E. GRANVILLE CRABTREE, M.D., F.A.C.S., Boston: I have been very much pleased with Dr. Hamer's presentation of the problem of the removal of the difficult stone. I think he has pointed out one thing we have to take advantage of, and that is how that particular stone happens to lie in that particular kidney. Very often there is some bulge or thinning of the kidney substance which allows us to take advantage of this area in removal of the stone.

During the past year I have had for removal several large stones. In some of those it was possible by severing the recurrent artery of the pelvis to extend the incision into the kidney substance from the pelvis into the lower pole, opening up that pelvis widely. In the extrarenal pelvis there is a wide exposure which gives one an opportunity to pull down stones that are caught in calices. It has one disadvantage, however, and that is that it throws the operation too near the renal vein which may be torn. I do not know how much it damages kidneys to cut the recurrent artery but I think it less of a damage than the older operation of wide incision of the kidney parenchyma. In the one instance in

which the incision injured the vein the accident came about from the vein folding over the edge of the pelvic incision though an attempt was made to protect the vein with the handle of the knife while the stone was being delivered.

WILLIAM C. QUINBY, M.D., F.A.C.S., Boston: The Society is to be congratulated on this clear presentation, for the reason as Dr. Hamer said in the beginning of his paper, that the subject isn't one to which any single routine operation is applicable. There is no one type of operation you can previously decide to do until you actually reach the kidney bearing the stone. You may hope that you will find the stone fairly accessible, in a pelvis in large measure outside of the parenchyma, and that you will have an easy time; but I myself have no experience which justifies me in making a preoperative prognosis as to how easy or how difficult the operation will be found to be. One may guess from the history, from the appearance of the stone, and from the shape of the pelvis when filled with pyelographic medium; but it is only a guess, and one must surely be prepared, if one is to do the best type of renal surgery, to tackle these cases in which removal of the stone is very difficult. I have always said, I think with truth, that a nephrectomy is an admission of the inability on the part of the operator to cure the condition. It may be the only answer to the patient's problem; it may be the proper answer; but we can only look on it to be like taking a man's leg off because we can't save it. It is destructive surgery and it is to be deplored.

I think that the curved incision into the pelvis is very commendable. It is an effort to get a larger access to the calculus and to remove it without causing undue trauma, for in removing stones from the kidney I am convinced that one must have an adequate opening through which to remove the stone, so that fragments will not be unconsciously left to serve as nuclei for subsequent stone formation. If possible, for the same reason, I always try to remove the stone without the use of forceps.

Unfortunately there are some kidneys which have a pelvis so small that one can't get a finger into it, and even with the best incision one can make, one's work is done under cramped conditions. The very small undiversified renal pelvis may contain a stone tightly wedged into it, and under those circumstances this has to be delivered with instruments.

I use a method of estimating and locating a stone in such pelvis by palpating with great care in the renal sinus before making any incision at all. The sinus is that space outside of the pelvis between it and the renal parenchyma which contains the branches of the renal vessels. One can put the tip of the finger into the sinus and with delicate traction form a palpatory estimate of what one has to deal with and gain information of the exact size of the pelvis higher up.

Furthermore, I always operate on renal calculi without gloves. One needs the greatest delicacy of touch, and after the incision into the pelvis is made I believe one can tell more about the conditions inside with a bare finger than when wearing a glove.

Wherever possible, as Dr. Hamer has suggested, an x-ray exposure of the kidney at the operating table is of the greatest aid, either using the fluoroscope or the direct film. It gives one a sense of assurance and security—in short, it shows what you have to deal with, and if a stone fragment remains you learn just about where it is located.

Now in regard to cutting the posterior branch of the renal artery—I think that this is to be deplored if one can get sufficient exposure without doing so. Incisions in the pelvis such as Dr. Hamer described so clearly are very important, the curved incision or the Y incision. They give greater access to the interior of the pelvis, but if they are of such extent that you have to cut the retropelvic artery, you are cutting the artery at a point where it isn't giving off many branches and you are destroying considerable renal parenchyma—more than if you make an isolated stab wound out in the parenchyma of the kidney at a point after the vessels have branched. Therefore I have always avoided cutting the retropelvic artery if possible. It is as important on the posterior side of the pelvis as the artery on the anterior side. Those who remember the injections which were made by Dr. Belt and Dr. Joelsson will recall that it was shown by that piece of work that all these renal vessels are end arteries. They do anastomose, but the anastomosis doesn't become operative soon enough after ligation to conserve the renal tissue. The parenchyma dies before anastomoses have time to form. So from a functional point of view the retropelvic artery is an end artery, and that black portion of the kidney shown in the diagram by Dr. Hamer will die. So it becomes a matter of surgical judgment whether the price is a fair price to ask the patient to pay for the removal of the stone. If the stone is of such nature that it can't be dealt with without cutting the artery, I prefer to push the stone toward the periphery by the finger in the pelvis, pushing it to the cortex where an incision is made through which it is removed transextortically. I think one destroys less tissue in this way. I never split a kidney from end to end. I think that is a foolhardy type of operation. Whatever one does, however, I am sure it is important, as I said earlier, to have an opening large enough in the beginning not to cause worry and to necessitate picking the stone out in fragments, being never quite sure that you have removed all of it.

There is another point which concerns the mobilization of the kidney which is of importance. If one makes a transverse incision through the loin in place of the oblique one, this

transverse incision allows mobilization of the kidney on its pedicle with less traction than does the oblique one which is made in the line of the ureter.

JOHN W. KEEFE, M.D., F.A.C.S., Providence: I have thoroughly enjoyed Dr. Hamer's very lucid presentation of the subject and I have been very much impressed with the improvement from the incision he has made and I also felt from the fact that he had broken the stone in some of the difficult ones the removal was a distinct advantage. Many times in removing fibroid growths and lipomas if they are bisected and trisected, one can remove them with much greater ease. It seems one can do very much less trauma in the removal of the large stone in the kidney by dividing it into portions than by attempting to remove it all in one piece. There is always a temptation for a surgeon to remove a stone whole, but I don't feel as Dr. Quinby does, that you will have trouble with the fragments. I feel that you could wash out all the debris that is there at the time, and the lack of trauma to the kidney by the breaking up of a stone to my mind would be a distinct advantage.

I thoroughly enjoyed Dr. Hamer's paper and wish to congratulate him.

A. T. JONES, M.D., F.A.C.S., Providence: I am sure I have nothing I can add to the discussion. I have enjoyed the paper very much indeed. It is a splendid presentation of the subject.

J. DELLINGER BARNEY, M.D., F.A.C.S., Boston: I would like to add a word about the breaking of the stones. In two or three cases of large stones, I thought that the simplest way would be to crack it into several fragments which I did with a heavy clamp. In these cases I didn't make an incision similar to Dr. Hamer's but I cracked the stone into several pieces and got out all the fragments as far as I could. But in two of them after careful search there were fragments left in the kidney. That method may be advantageous as far as avoiding destruction of the kidney is concerned, but I feel it is very easy to miss fragments of stones. Many of them get covered with fibrin and don't give a grating sensation to an instrument, and there is no way I know by which they can be detected. They may be missed in the fluoroscopic examination and by the X-ray. So while I think you may inadvertently crack a stone and get it out, I think deliberate cracking is risky.

ROGER C. GRAVES, M.D., Boston: I think the subject has been concisely covered by Dr. Hamer's excellent paper and by the discussion. Personally I am inclined to Dr. Quinby's point of view with regard to the routine severance of the retropelvic artery. According to all of the evidence, the renal arteries are end arteries and

an ischemic necrosis must result in a given area when the vessel supplying that area is divided. To be sure the retropelvic artery constitutes a very small part of the renal circulation, but there is no point in sacrificing its portion of the kidney parenchyma if such sacrifice can be reasonably avoided.

HOMER G. HAMER, M.D., F.A.C.S., Indianapolis (closing): I wish to thank the gentlemen for their generous discussion. I have no point to add other than to say that I haven't deliber-

ately cut the retropelvic artery. I somehow have the feeling expressed by Dr. Quinby and Dr. Graves that it is a mistake to do it if it can be avoided. If it can't, there isn't so much harm to come from that as from bisection of the kidney longitudinally.

All this goes back to Kelly's suggestion in 1911 that the ordinary pyelotomy incision may be extended into the lower calyx without danger of dividing any very important part of the retropelvic circulation.

ORIGINAL ARTICLES

THE TRANSVERSE CERVICAL INCISION IN THE LOW CESAREAN SECTION

BY LOUIS E. PHANEUF, M.D., F.A.C.S.

At the present time the low or cervical cesarean section is receiving favorable consideration in many foreign as well as in many American clinics. Not only is the range of applicability greater than that of the classical hysterotomy, but the convalescence is better and the infrequency of post-operative complications is noteworthy. It has been claimed that better healing results from an incision in the non-contractile cervix than in the contractile body of the uterus. Confirmation of this claim is found in the low percentage of rupture in the cicatrix, and in the fact that when weakness or rupture does occur it is in the upper part of the scar where the incision had been prolonged upward unduly in the musculature.

Wetterwald², in a critical analysis of 3600 low or cervical cesarean sections, collected in the literature, found rupture of the cicatrix in ten cases (or 0.28 per cent.).

It would seem that a transverse cervical incision, being wholly in the non-contractile tissue, if practicable, might reduce the percentage of rupture still further.

Kerr and Hendry¹ reported one hundred and seven cases of cesarean section by a transverse incision in the lower uterine segment, with a maternal mortality of 4 per cent. The subsequent labor in twenty-six of these cases was as follows:

Second cesarean section of the lower uterine segment type.....	17
Second cesarean section of the classical type.....	6
Spontaneous delivery of a smaller child.....	2
"Low forceps".....	1

The authors describe and illustrate their technique. They do not separate the bladder and anatomically make an isthmal rather than a cervical incision.

I have used a technique which is similar, but differs in three important points:

1st. The bladder is fully separated from the

cervix down to the vagina and as far as possible laterally.

2nd. The incision is placed entirely in the cervix at a much lower level.

3rd. The cervical incision is entirely retrovesical or subperitoneal at the completion of the operation.

TECHNIQUE OF THE LOW CESAREAN SECTION WITH THE TRANSVERSE CERVICAL INCISION

FIRST STEP. *Abdominal incision.* The patient is catheterized, anaesthetized and placed

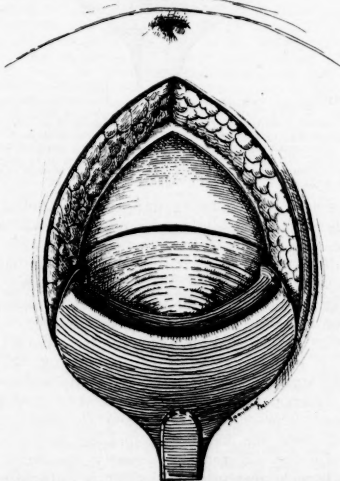


FIGURE 1. Low cesarean section. Transverse cervical incision. Median suprapubic incision exposing the lower uterine segment. The visceral peritoneum is incised transversely where it is loosely attached slightly above the bladder reflection.

in the Trendelenburg position. The abdomen is opened by a median incision about six inches

long, starting at the symphysis and ending near the umbilicus. The peritoneal cavity is entered between the bellies of the recti muscles. A Doyen retractor is introduced at the lower angle of the incision and the lower uterine segment is well walled off with a long strip of gauze. One cubic centimeter of an aseptic preparation of ergot is injected in the thigh muscles.

SECOND STEP. Cervical Incision. Delivery. The uterine peritoneum, where it is loosely attached above the bladder reflection, is incised transversely. An upper flap of peritoneum is

expressed through the incision. If, on the other hand, the cervix is fully dilated, the cord is dropped in the uterus, and the placenta is

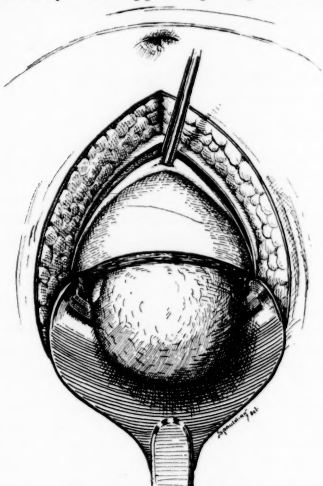


FIGURE 2. Low cesarean section. Transverse cervical incision. A lower flap of peritoneum is separated with the bladder which is held under the symphysis by a Doyen retractor. An upper flap of peritoneum is raised and held by Allis forceps. The lower segment is incised transversely with bandage scissors to protect the child's head. The vertex is delivered by raising it with the left hand and making pressure on the fundus with the right hand.

separated and a lower flap of peritoneum, together with the bladder, is pushed downwards. The Doyen retractor is now placed over the bladder to protect it. The assistant makes traction upwards on the uterus to bring the lower segment near the surface. A small transverse incision is made as low as possible in the cervix, in the median line; this is extended laterally with bandage scissors, curving the incision upwards, so that the concavity is towards the symphysis. This is done so as to give more room. The child is delivered by raising the head with the hand and making pressure on the fundus. Forceps are rarely necessary. If the breech presents, the infant is naturally extracted by the feet. One cubic centimeter of pituitary extract is injected in the thigh muscles at this time. If the parturient has had no labor, or if the cervix is but slightly dilated at the time of delivery, the placenta and membranes

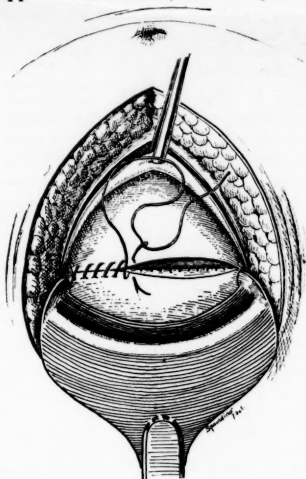


FIGURE 3. Low cesarean section. Transverse cervical incision. The cervical incision is sutured in two layers with continuous sutures of No. 2 chromic catgut.

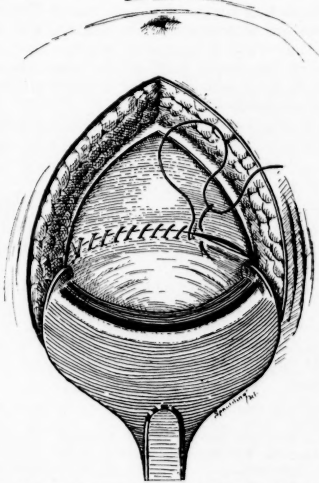


FIGURE 4. Low cesarean section. Transverse cervical incision. The operation is completed by uniting the flaps of peritoneum, upper and lower, with a continuous suture of fine chromic catgut. The cervical incision is now entirely retrovesical or subperitoneal.

expressed through the vagina after the closure of the cervical incision and the union of the peritoneal flaps. There is very little hemorrhage from the transverse incision.

THIRD STEP. Closure of cervical incision and suture of peritoneal flaps.

The cervical incision is closed in two layers with continuous sutures of No. 2 chromic catgut. The first layer takes in the endometrium and part of the muscle. The second layer takes in the remainder of the myometrium and the fascia of the lower uterine segment and completely covers the first layer. The peritoneal edges are now united with a continuous suture of No. 0 chromic catgut, thus making the transverse cervical incision entirely retrovesical.

FOURTH STEP. Closure of the abdominal wall. The gauze strip is now removed, the omentum is brought down, (intestines are practically never seen during this operation) and the abdominal wall is closed in layers in the usual way.

I have performed twenty-five low cesarean sections by this technique. They are grouped in tabular form for the sake of convenience.

TABLE I
INDICATIONS

Cephalopelvic disproportion.....	6
Cephalopelvic disproportion, previous multiple myomectomy	1
Toxemia of pregnancy, ablatio placentae, uterine apoplexy	1
Gravido-cardiac, decompensation.....	1
High breech, large child, primipara.....	1
Central placenta previa.....	1
Previous classical cesarean section.....	3
Two previous cesarean sections, first classical, second cervical with longitudinal incision.....	1
Previous cervical cesarean section with longitudinal incision.....	8
Two previous cervical cesarean sections with longitudinal incision.....	2
Total	25

TABLE II
NUMBER OF PREGNANCIES

Para. I	7
Para. II	10
Para. III	4
Para. IV	2
Para. IX	1
Para. X	1
Total	25

The ages of the mothers varied between 22 and 42 years.

TABLE III
LABOR

10 hours	1
11 hours	2
12 hours	1
14 hours	2
20 hours	1
24 hours	1
48 hours	1
64 hours	1
Total	10

The membranes were ruptured in seven of these parturients; in one twenty-four hours, in another

forty-eight hours, and in still another seventy-two hours. Two of them were half dilated and one of them fully dilated. Two of these patients had had one vaginal examination; in the first case it was made in her home, while in the second it was made in the hospital.

Two cases deserve special mention, Case 23 and Case 24.

CASE 23. Mrs. M. O., a primigravida, 22 years old, started in labor at 10 P. M., July 7th, 1927. She was delivered at 2 P. M., July 10th, 1927. She was in labor sixty-four hours. When I saw her, sixty hours after labor, a rectal examination was made. It was found that the head was dipping in at the inlet but was high. The promontory of the sacrum was very prominent and the membranes were ruptured. The external pelvic measurements were the following: In.S. 24 cm. In.C. 29 cm. In.T. 34 cm. Ext. Conj. 19.5 cm. R.O. 23 cm. L.O. 23 cm. The uterus was generally contracted. There was a thick contraction ring around the child's neck. The fetal heart was regular and of fair quality. Had I seen the patient earlier in labor my impression is that I would have done a cesarean section because of disproportion. On account of the fact that she had been in labor so long, and since the cervix was fully dilated, I felt that forceps should be tried. With that end in view the patient was etherized, and a right episiotomy was performed. The vertex, which was presenting in R.O.P., was rotated manually to an R.O.T. Tarnier forceps were applied to the R.O.T. and the vertex was then rotated to an R.O.A. with the forceps. The application was good as the blades were applied directly over the ears. With good hard traction it was impossible to move the head. 1 The forceps were removed and the episiotomy wound repaired with interrupted sutures of No. 2 chromic catgut and silk-worm gut. Version was out of the question as even deep anesthesia did not relax the contraction ring around the child's neck and it was impossible to push the head in the fundus through that ring in order to permit the turning of the child. At this time the fetal heart was still perceptible, although the quality was not as good as it had been previous to the attempt at forceps. The patient's abdomen was prepared and she was taken to the operating room where a low cervical cesarean section with transverse incision was performed.

Under light ether anesthesia a median abdominal incision, starting at the symphysis and ending near the umbilicus, was made. The abdominal cavity was entered between the bellies of the recti muscles. The lower segment of the uterus was well walled off with a three-yard strip of gauze and with a one-yard strip on each side. A Doyen retractor was introduced at the lower angle of the incision and the peritoneum over the lower segment was incised transversely. An upper flap was dissected and a lower flap, together with the bladder, separated from the cervix. The bladder was held under the Doyen retractor. A very low transverse incision was made in the cervix. A female child, weighing 9 pounds, was extracted by the vertex, without any special difficulty. The child's heart was beating feebly at birth, but the child never took the initial gasp. Examination of the fetal head showed that the forceps had been perfectly applied over the ears and that the baby was not marked. The end of the cord was dropped in the uterus. The cervical incision was closed in two layers with continuous sutures of No. 2 chromic catgut. The first layer took in the mucosa and part of the myometrium, and the second layer the remainder of the muscle and the fascia which covers the lower segment, and buried the first line of sutures. The peritoneal flaps were united, thus making the cervical incision entirely retrovesical.

Without disturbing the gauze packs the placenta was expressed by pressure on the fundus into the vagina. The packs were removed and the omentum came down with them. The intestines were not seen at any time during the operation. The abdomen was closed in layers. The placenta was found partly extruded through the vulva. The placenta and membranes were then removed; the placenta was found to be intact and the membranes complete. The patient was moderately shocked; her pulse was about 130, but of good quality at the end of operation, and her color was excellent.

The convalescence was very satisfactory. The temperature rose to 101°F. on the first day, to 99.8°F. on the second day, and from then on it was always below 99°F. The pulse was 118 on the second day after delivery; otherwise it was always below 90. The respirations varied between 20 and 24. The sutures were removed on the eighth day, the patient was allowed out of bed on the tenth day and was discharged well on the thirteenth post-operative day.

CASE 24. Mrs. J. C., a secundigravida, 20 years of age, had had a classical cesarean section at the eighth month of her first pregnancy, in a suburban hospital, for toxemia of pregnancy of the convulsive type. The infant had lived three hours. Nothing unusual had been noted during her convalescence. She received excellent prenatal care during this, her second pregnancy, which was free from complications, and had reached term upon her admission to the hospital. She was delivered of a female child, by a low cesarean section using the transverse cervical incision, before the onset of labor. The uterus was then brought out through the abdominal incision to explore the previous corporeal scar. The surface of the uterus appeared smooth, but it was discovered that the uterine muscle in this region had completely separated and that the scar consisted only of the serosa. It would have taken but little labor for rupture to occur. The serosa was incised the whole length of the previous scar, the edges of the muscle were freshened and the incision was closed in three layers with chromic catgut. Both the mother and baby made excellent recoveries.

MORBIDITY

Complications were noted in three women. The first had acute dilatation of the stomach, on the table; gastric lavage was practiced with a good result; during the puerperium she developed thrombophlebitis of the veins of the left pelvis and of left leg; she remained in the hospital sixty-seven days, after which time she was discharged well. This patient had had a second cervical cesarean section at the time of election, without labor, and without vaginal examinations.

The second, a gravido-cardiac admitted in a state of decompensation, had a low cesarean section under morphine-scopolamin-local infiltration anesthesia. The day after operation she had acute dilatation of the stomach necessitating gastric lavage; otherwise her puerperium was uneventful and she was discharged well.

The third came to the hospital, after twelve hours of labor, for her second cervical cesarean section. She had a severe acute rhinitis and bronchitis. Her operation was performed under spinal anesthesia. Her convalescence was complicated by a septic abdominal incision, the infection, however, not reaching deeper than the

fascial layer. Her incision was healed at the time of her discharge.

In one patient an umbilical hernia, the contents of which were omentum, existed at the time the cesarean was done. A herniotomy was performed in addition to the delivery.

Spinal anesthesia was used in three women who had acute respiratory tract infections, and local anesthesia in another, a gravido-cardiac with decompensation. The other patients in the series were operated upon under ether anesthesia.

MORTALITY

One mother in the twenty-five died, a maternal mortality of 4 per cent.

This patient, a secundigravida, 28 years old, was seen at the prenatal clinic every two weeks during her pregnancy, which had reached seven and a half months. Her first pregnancy had ended in a miscarriage. Nothing abnormal had been noted during the present pregnancy up to four days previous to her admission to the hospital. At that time her systolic blood-pressure was 140 and her urine showed a slight trace of albumin. A meat-free diet, saline catharsis, and rest were prescribed and she was told to report in a week. When admitted, four days later, she was in tremendous shock, her uterus was ligneous in consistency, she was bleeding slightly from the vagina, her systolic blood pressure was 200 and her urine, obtained by catheter, boiled solid. It was learned from her relatives that she had eaten meat freely and had not rested since her visit to the clinic. She was not in labor and her cervix was long and rigid. She was taken to the operating room as soon as she could be prepared. A typical cervical cesarean section, using the transverse incision, was performed. The uterus was purplish in color but the lower segment was not involved in the apoplectic process. The placenta was completely separated and the uterus contained a large quantity of blood clot. A male stillborn fetus was extracted with the placenta and membranes and the incision was quickly closed. The removal of the uterus was not considered as, on the one hand, it contracted well, and, on the other hand, the patient was in no condition to stand the added shock of a hysterectomy. She never came out of her shock and died nine and a half hours after operation.

Two infants were still-born, a fetal mortality of 8 per cent. The twenty-three children born alive all survived. One of the stillbirths occurred in the case of complete separation of the placenta, and the other was the child of the patient who had been in labor sixty-four hours.

SUMMARY

- I. In weak or ruptured scars following low longitudinal cesarean section, the weak point is usually in the contractile part of the uterus and the non-contractile part is well healed.
- II. A transverse incision permits placing the scar entirely in the cervix, the non-contractile tissue.
- III. The transverse incision (if practicable), may be expected to bring down the slight incidence (0.28%) of ruptured scars following the low cesarean section.

IV. The transverse incision

- (a) has been found practicable;
- (b) is accompanied by little bleeding;
- (c) gives plenty of room, if curved with the concavity towards the symphysis pubis; and,
- (d) can be employed in some patients who have passed the stage where a classical cesarean section would be considered safe.

REFERENCES

- 1 Kerr, J. M. Munro and Hendry, James: Conservative Cesarean Section by the lower uterine segment incision. *Surg., Gynec. and Obst.*, Chicago, 1926, July, 85-88.
- 2 Wetterwald, Max: *Gynec. and Obst.*, Paris, 1926, XIII, 2, 131-137.

NOTE: Since preparing this paper, the author has brought his series of these cesarean sections to thirty-six. The present maternal mortality is 2.8 per cent.

THE SURGEON; HIS SCIENCE AND HIS ART

BY RUDOLPH MATAS, M.D., F.A.C.S.

An Address at the Presentation of the Henry Jacob Bigelow Memorial Medal by the Boston Surgical Society on November 1, 1926

(Continued from page 782)

XIV.

Ethics: Responsibility, Conscience.

This brings us to the ethics of surgery where we enter at once into the domain of conscience, and where the question of responsibility promptly asserts itself. Here, the Surgeon comes face to face with situations and circumstances which rarely subject the souls of men to more trying ordeals. "Every day,"—let me now repeat the appealing words of Faure,—“Every day, the surgeon is confronted with all sorts of responsibilities; every day by his counsel, by a mere word or even a gesture, he may stand as an arbiter between the life or death of one of his fellows, lives of men like himself, whose hopes hang suspended from his hands, only human hands,—lives which are of immeasurable value to their families, their communities, to the nation; lives of infants who are on the threshold of life, and in whom are centered the hopes and the happiness of their parents; of women, young women especially, who appeal most touchingly to our sensibilities, our affections; women, so many of them, who suffer and are disabled in the discharge of their maternity, which is their highest function,—a function that should be gentle, kind, and painless, since the giving of life should be rewarded by joy and happiness, and be immune from penalty, suffering or death; and yet, a function, which by a cruel irony of fate is on the contrary, so often the most painful and deadliest of human functions.”

Yes, the surgeon, if he would be worthy of the great role which he is called to play in the social body every day of his life, must be possessed of a firm soul, not to weaken and break under the weight of these heaviest of responsibilities.

The architect who swings a great stone noiselessly and safely into its place, the captain on the bridge of a coast-nearing steamer, the locomotive engineer who runs the express, the commander of a great ship, freighted with human lives, entering dangerous waters, or approach-

ing an iceberg in a fog, or, as in war time, fearing the proximity of a submarine, or a contact with a submerged mine,—these are comparable examples of the alertness, the vigilance, the ever-present and wearying anxiety of the surgeon, watchful with the whole weight of the chances of life or death of the patient, as he lies before him on the operating table. How much can he stand? How long can he stand it? These questions are ever present. “Is it safer to stop, or to go on?” are problems as familiar and as unpleasant to the operator’s mind, as the decision whether he shall begin at all. “In the present feverish condition of operative surgery,” says Dr. Cheever,—Dr. Bigelow’s eminent successor,—from whom I have largely quoted these admirable lines, “it may be prudent to ask ourselves first ‘What is the object of the operation; how shall we regulate our conduct in unforeseen contingencies?’” . . . In dealing with the life and death of a human being, what operator of capability could put aside the saying of the Roman philosopher, which liberally translated means, “I am a man. How can anything that relates to the life of a human being be indifferent to me?”

An educated layman once said to Dr. Cheever, “If you undertake an operation and do your part and anything goes wrong, should you feel any more responsibility than the carpenter who does his job and has no more anxiety about it?” That this cannot be the enviable state of mind of the educated surgeon needs no proof to one who has been called to exchange the calm and irresponsible role of the spectator, or of the assistant, for the responsibilities and anxieties of the operator, in the course of a capital operation. “Would that this callousness did more generally prevail,” is often the wish of the overworked and too sensitive surgeon. “Bad for humanity, but good for us,—would be the verdict of all our brethren.” (Cheever.) This false estimate of the surgeon’s indifference may be general, but it is, we know, never true.

Of course, a surgeon must worry about his

patients. Every conscientious man must do so. "A man who doesn't worry at all doesn't care a whole lot", and who would not agree with Da Costa when he adds? "I shouldn't want a man who didn't care a whole lot, operating upon me or mine." Perhaps, as he says, "worry is a device of nature to make us try to do our best. If we knew we shouldn't worry we might be tempted at times to be careless. If a surgeon analyzes his worry he can get a line on the sort of man he is himself. If he worries because he feels he may be sued, may lose a bill, or may hurt his reputation, then with him the voice of conscience is the fear of being caught."

It has been thoughtlessly assumed that because the modern Surgeon is surrounded by a corps of expert collaborators in the laboratory and in the operating room, that his responsibilities have lessened and are shared by the many associates who participate in his work. But this is an entirely erroneous assumption. The surgeon's collaborators can only relieve him of many of the burdens and anxieties that he had to shoulder alone in the days when surgery had not become the complex science that it is now, and the organization of a surgical service had not been perfected as it is today. Their collaboration only gives him comfort in his work and allows him to concentrate upon his own tasks with a greater sense of security in his diagnoses and in the greater safety of his patients. It is not the radiologist, the pathologist, the biochemist, the anaesthetist, his assistants, or his nurses, who are responsible for the safety of the patient. It is he, the commander-in-chief, he, alone, who is responsible for the safeguarding of the life that is entrusted to his care. All the others, like the officers and crew of a ship are merely responsible to him, as the Captain, for the faithful execution of his orders. The Surgeon may rest his trust and confidence in the expertness and efficiency of his collaborators and subordinates, but the chief responsibility must always rest with him, and, being his, must be exercised with authority, not only during the operation, but also before, perhaps long before, and also after, perhaps long after, the operation has been performed.

The emotions and the responsibilities of the surgeon have been compared with those of great commanders who, in the exercise of their military duties, are called upon to stand as the arbiters of the life and death of their fellows. "From the commander-in-chief of a great army who disposes of the lives of millions of men, to the lieutenant or the sergeant, who is also responsible for the safety of the men under his command,—there is no telling what emotions must agitate the hearts of such men, who, facing the uncertainty of battle that is to seal the fate of hundreds, nay thousands, doomed to certain death." (Fauré.) Surely, we must grant that what we go through in facing our individ-

ual responsibilities, cannot compare with these massive experiences in their gravity and magnitude; but the responsibility of the commander and his emotional struggles, if he has any, are not renewed every day, as these moments of supreme decision and command are relatively few, even in wars, in which the strife is incessant and prolonged, as in the great conflict that the world has so recently survived.

There are, of course, commanders and commanders, as there are surgeons and surgeons, whose conscience, is only troubled by the uncertainty of the success or the failure of their enterprises. In speaking of the conscience of commanders and great military conquerors, well may we explain, "Oh, shades of Atilla, Genghis Khan, of Alexander the Great, of Julius Caesar, of Charles V, of Charles XII, Frederick the Great, of Napoleon, of the Kaiser,—Ye, who slaughtered millions of your fellow creatures, merely to gratify your selfish ambitions and glorify your murderous deeds, where is your conscience? How complacently some of these great conquerors look upon the misery, desolation and death that they have wrought, is only too well told in history to need repetition. I am tempted, however, to use as an illustration, the words of Napoleon, who murmured with a kindly smile, as he gazed on the corpses piled up on the Field of Eylau: "Une nuit de Paris réparera tout cela".

Unfortunately, Surgery, as all other professions,—the law, and the ministry,—has its due proportion of moral defectives, who are born conscienceless, who may be intelligent, but soulless; who gain entrance into the fold, as wolves disguised in lambs' clothes. These are men who only dream of their sordid ambitions, either for lucre or to satisfy their craving for notoriety as great operators, and whose sleep is never disturbed by reproachful visions of funereal processions; whose failures only worry them because of the effect they may have upon their reputation, their bank account, or their statistics. These men, not unlike the egotistic conquerors of History, are moral monstrosities, fit only to be exhibited in pathological museums. They have no place in the hierarchy of Surgery and are only mentioned to be condemned and repudiated as the nauseous excreta of a healthy body.

No doubt, the frequent, almost incessant repetition of the profound emotions that the conscientious surgeon has to undergo, tend to dull the sharp edge of his sensibilities. We get used to everything, even to our own worst misfortunes, and it would be strange if the surgeon, human as the rest, did not become tolerant of the great spiritual upheavals that are continually renewing themselves in his practice. But the habit of responsibility does not prevent that our lives, so often confronted by tragic realities

¹² Ch. Richet. *L'homme stupide*. Paris. 1919.

and assailed by more poignant doubts, should be clouded by many cruel hours.

Fortunately, these emotions are not all of the same intensity, but they all leave their impress upon the physical and mental make-up of the surgeon who loves his patients and his work. These daily anxieties and triumphs are the little drops that steadily falling hollow the rock, "*Cavant lapidam non vi, sed saepe cadendo.*" They are the ingredients that make up, the tincture which bleaches us and makes us prematurely gray, if not bald and wrinkled. It has been well said, that the surgeon leaves his mark on the bodies of his patients, but they plough theirs in the furrows and wrinkles of his brow.

The business man insistently reminds us that "Time is money," but the surgeon is reminded before he has gone over many milestones in his career, that "*Time is life.*" Life, his own life, which he gives away freely, prodigally, daily, hourly, with all that is best in him; a life that those who grudgingly pay his bills, and those who do not, and those who are the recipients and beneficiaries of his bounty,—usually fail to appreciate. And yet, the real, honest Surgeons, all love it. They love it because to all her true Knights, Surgery is beautiful, because it is great,—great in its enterprises, great in its resources, great in its achievements, and noble in its ends. If it has its tragic hours, its hours of bitterness and sorrow, it has also its superb and glorious hours, and the greatest joys. For what joy can be sweeter, or can compare with that of conquering disease, to triumph over Nature, and to be "even stronger than Death?"

XV.

Other Qualities: Prompt Decision; Quick Action; Dexterity; Firmness and Gentleness; The Golden Rule.

But it does not suffice to have the courage of responsibility. There are a number of other qualities, seemingly opposed to each other, that the surgeon should possess to exercise his profession in the fullness of its power and with all the necessary authority, and which, are rarely possessed by one and the same individual.

Foremost among the qualities, that tradition and experience have attached to the skillful surgeon, is manual dexterity, a quality in which mind and body are so inseparably mingled, that it must be regarded as a blending of the two. No one can deny that dexterity or adroitness in the use of the hand is a precious quality which contributes in no small way to give a distinctive character to the Surgeon's personality and a special stamp to his work. It is only those who are not dexterous who are likely to depreciate or sneer at dexterity. But the standards by which we appraise the value of this quality have changed, so that dexterity, which

was given a foremost place in the old pre-anaesthetic Surgery, has been subordinated,—though highly praised in our day,—to accuracy and security¹³. Adroitness in the use of the hands not only goes with skill in expediting an operation, but when combined with judgment, adds grace and finish to the manoeuvres of the Surgeon. Dexterity is exhibited most obviously in the specialists who are in the habit of handling certain instruments which require long training for their proper use. A mere glance at the way a man uses an ophthalmoscope, a laryngoscope, bronchoscope or a cystoscope, will instantly tell the difference between the expert and the neophyte. In fact, to acquire skill in the use of these instruments is a specialty in itself¹⁴. It is more often shown by the young, well-trained and agile assistants on the staff of competent surgeons, in the smallest details of an operation, as in the tying of a knot, of a ligature, in the clamping of an artery or in the use of needle and thread for suturing a wound. But dexterity in the vital work of the surgeon has been transformed from a bit of quick jugglery, that it was so often in the old days before anaesthesia, into terms of accuracy, precision and security with which the modern surgeon attains his objective, and in the bloodless, painless and germless way in which he accomplishes his work. Dexterity interpreted in this way, as a deliberate but quick and accurate performance of a surgical act, can be acquired by the average well-educated surgeon, provided his nerves are under control and his hand and brain work in perfect harmony. Surely a surgeon should not approach an operation with shaking or crippled hands; they should be firm and steady; but even the firmest and steadiest hand is of no use when the brain shakes. Better, a thousand times, a trembling hand than a trembling brain! Dexterity, let us remember, is largely a native or inherited quality. In surgery, as in all the liberal arts, in painting, sculpture and music and in all the manual occupations, men are not born equal, and exhibit enormous individual variations in their ability to acquire it. In some well-balanced individuals, dexterity becomes, by frequent repetition, an automatic function of the sub-conscious mind and may attain prodigious degrees of perfection, such as we see in the great pianists, violinists, and other instrumental performers, and even in the lightning rapidity of some of our professional typists. Others, with quick, agile minds have awkward, clumsy, slow and incoördinate hands; these are usually congenital defectives, who may be even brilliant

¹³ "Formerly the surgeon was estimated for dexterity and quickness, now he is esteemed the Great Surgeon, who to judgment adds dexterity and to dexterity, patience." D. W. Cheever, *Lectures on Surgery and other papers*, 2 Ed., Boston, 1898.

¹⁴ Bigelow's unsurpassed dexterity as an operator was perhaps never more brilliantly displayed than in his operation of lithotomy for crushing and evacuating stones in the bladder in one sitting. His skill in the performance of this delicate and difficult operation, with the ingenious instruments that he invented, was, according to the testimony of his contemporaries, short of marvelous.

intellectually, but in whom the lines of communication between the brain and the fingers seem to be clogged or interrupted: such people should never attempt the practice of surgery or engage in its responsibilities. Others, again, with quick, agile and dexterous hands, are utterly incapable of conducting a complex difficult operation in dangerous anatomical regions to a safe termination. Again, in contrast, we find that some of the most eminent and skilful surgeons who have hands, which, in repose appear inert, flabby, or even deformed and partially crippled¹⁵, and yet, when called to action seem to be electrified by the flashes from the brain and are capable of marvelous execution. There are many men who, from early youth, have displayed extraordinary manual dexterity in special directions; in the manual sports, in the arts, where they perform prodigies of technical skill, yet these most dexterous performers may fail utterly as surgical technicians. This only confirms the fact that manual dexterity is not a common possession, and, more than this, that it is a specific quality of the individual which is dependent upon the fine adjustment and responsiveness of the hand to a particular type of brain.

The unison of hand and mind consists not merely in obedience of the hand to the mind, but in something more, "a mutual implication or generative conjugation of the two." That admirable scholar, the late Sir Clifford Allbutt, beautifully expresses this subtle interaction of the craft of the hand with the creative power of the mind when he said: "The infinite delicacy of the educated senses is almost more incredible than the compass of the imagination; when they unite in creation, no shadow is too fleeting, no hue too exquisite, for their common engagement and mutual reinforcement. "The craft of Verrochio becomes the magic of Leonardo da Vinci. Leonardo and Michael Angelo, in genius, perhaps the greatest craftsmen the world has seen, were as skilful to invent a water engine to anatomize a plant or to make a stone cutter's saw, as to paint the lineaments of the soul, and to build the dome of St. Peter's above the clouds of Christendom."

Without pretending to soar with genius to the heights of the Empyrean, which is given only to a chosen few, the surgeon, as an exponent of the greatest of the liberal arts,—the sculptor and moulder of "the human form divine,"—needs to cultivate the subtle touch, the sentient finger and obedient hand, even more than the sculptor, the painter, the musician, or other interpreters of Art, in baser material.

¹⁵ "It was surprising to an onlooker that he (Lister) could perform delicate manipulations with sure unerring certainty, for his hands were not the beautiful hands of his mother. They were square and thick and the fingers rather short. Such are often said to be clever hands. There is probably nothing in the popular belief, for it is the directing brain and nerves that count. Be that as it may, Lister's hands served him well, not only in the Laboratory, but also in the performance of operations."

(Godlee, "Life of Lord Lister." Lond., 1924, p. 602).

But even more, he needs the broad vision that is his only through the light of science, the cultivated imagination, the catholicity of artistic taste and human sentiment, that give to his manual accomplishments the attributes and qualities that glorify the hand in the higher arts. To do all this, and to be all this, the Master Surgeon must be a man of mind, a man of thought, and a man who knows his province—the human body—as a whole and not only in one of its parts.

It is this rare and happy combination of the inventive and creative mind that we see so well exemplified in the surgical artistry, the mechanical genius and the dexterity that according to the testimony of his contemporaries, Bigelow exhibited in his craftsmanship as well as in his intellectual make-up.

What is more important than dexterity is that the Surgeon should be gifted with a capacity for clear and prompt decision and particularly in the course of a critical operation. Some surgeons have good judgment, but lack the capacity for quick and decisive action. In the course of a difficult operation, when an accident or something unexpected happens, it must be met without delay, and it is only by quick decision and prompt action that an operation can be brought to a successful issue or stopped in time to save life. The experienced Surgeon is usually a man of action. However suddenly the emergency arises, he is not flustered or perturbed. The real surgeon is never so cool and his judgment never so well-balanced and perfect, as in some great emergency. It is the same completeness of self-control that gives him his rapidity of decision. All his powers of body and mind are at hand. They do not need to be summoned, sent for, or collected. They are ready at an instant's notice to be applied in this direction or in that. The Surgeon, with a surgical mind, seems to jump to his conclusions with unerring instinct, but this is far from his mental process. The alternatives pass through his mind like a flash and the long habit of rapid decision enables him to select the proper outlet for safety, on the instant.

This capacity for quick and decisive action was one of Dr. Bigelow's most notable characteristics, and is well illustrated by an episode which is related in his biography by Dr. Hodges. It was in June, 1867, when in the course of an operation in the lower jaw, the patient became suddenly asphyxiated by the entrance of a clot of blood in his trachea. Bigelow, quick as thought, "instantly opened the wind pipe with one stroke of his scalpel, passed an elastic catheter beyond the point of obstruction and blowing through it expelled the clot by driving it upwards. The operation then went on with the operator seemingly undisturbed."

But side by side with the firmness of mind that goes hand in hand with the courage of

responsibility, clear judgment, and quick action, the surgeon must be gentle, he must be kind, and patient. It was Celsus who, nineteen centuries ago, said that among other qualities, the Surgeon must be pitiless. Yes, pitiless, merciless,—in dealing with the *disease*, but pitiful and merciful in dealing with the *patient*. He may be nervous and worried before the operation, but once it has begun and the Surgeon is engaged in his task, his one thought should be to do his work thoroughly, completely and as radically as the nature of the disease may require¹⁶. There is then no room for sentiment. It is only duty, stern duty, that commands his motives and his actions. The surgeon who, in action, allows his sympathies to govern his judgment, is as unfit for his task as the reckless surgical adventurer who plunges into a perilous operation without a clear idea of the difficulties that he is to encounter and trusts to his luck and to his technical skill to extricate him from the perils that he has himself created.

Harshness, coarseness and brutality are always detestable, but they are still worse when exhibited in the presence of the sick and distressed, who are weakened and tormented in spirit. Those who come to us for relief are patients. They suffer physically and spiritually as well, for whoever feels that his fate is likely to be decided by an operation has the right to feel some anguish in his mind. The evangelic precept, the Golden Rule, which commands that the Surgeon should treat his patients as he would be treated by them, should ever govern our thoughts and our actions. "Gentleness is one of the purest of human virtues, it has nowhere a better chance to display itself than in surgery, and the patients have the greater right to the surgeon's comfort, the weaker and the more helpless they are." (Faure.)

Gentleness, compassion and tenderness, do not exclude firmness. Persuasiveness and authority may travel hand in hand. Neither are resoluteness and an inflexible will incompatible with an inexhaustible patience and genuine sympathy¹⁷.

"The bravest are the tenderest,
The loving are the daring."

¹⁶ Lister said that a serious operation made him feel, as it made that intrepid surgeon Cheeselden, "sick with anxiety", but added that no such feeling interfered with his concentrating his attention on the operation when once it was begun. He preferred silence and seldom spoke while he was operating, feeling, as he said, that to introduce an unskilled hand into such a piece of Divine mechanism as the human body, is a fearful responsibility. (Götte: loc. cit.)

About Cheeselden: "Rapid and dexterous as he was in the practice of surgery, Cheeselden was exquisitely nervous up to the very moment when he commenced to operate. Before operating he was sick with anxiety, and as the moment approached, was pale from fear. But the moment he commenced his work, all fear vanished, the hand was electrified with skill and the operation was perfect." (R. M. Richardson, *Asclepiad*, Vol. III, p. 57, 1886.)

¹⁷ Note in the following quotation that the humanity and the reverent attitude of Lister, and even his cleanliness, was anticipated by Buiellein, a 15th century surgeon, in advising his students as follows: "The Chirurgeon must first begin in youth with good learning and exercise in thys noble arte. He also must be cleanly; nimble handed, sharpe sighted, pregnant witted, brave spirited, cleanly apparayled, pitiful hearted, but not

XVI.

Physical Qualifications: Health and Strength to Withstand the Strain of Surgical Life. Age.

Yes, the life of the Surgeon is toilsome, anxious and responsible. It is a life of strain and stress, and to endure its anxieties, vigils and exertions, the Surgeon must be possessed of certain physical qualities, without which the most intellectual and skilful operators would fail to stand the hardships of an arduous practice. Physical strength and robust health are necessary, not merely because an athletic surgeon can snap a thick and hard bone with one bite of a great rongeur, but because his physical make-up should harmonize with the exacting demands of his duties and mental activities. During most of the hours of every day his faculties are keyed up to a tense degree, almost to the breaking point, and physical tire goes hand in hand with mental exhaustion. The capacity to endure physical and mental exertion has been described as "surgical energy," or the "energetics of surgery" (Dartigues), and is characteristic of all great operators, though, as in all things, there are notable exceptions; it is specially required when complicated, laborious and hazardous operations tax the mind with the heavy burden of responsibility. The close confinement to the operating room, elevated temperature, which generally prevails in operating rooms, the permeation of its atmosphere with anaesthetic vapors, added to the tax imposed upon most professional or teaching surgeons and others, who are expected to instruct and entertain the spectators whilst operating,—or in the intervals,—all combine to make some of the surgeon's matinees most exhausting performances.

Berger, the eminent French Surgeon and authority on hernia, stricken to death by Apoplexy in the midst of an operation; Kocher, one of the greatest surgeons of his day, who led a life of extreme activity, but, in his old age falling exhausted by the operating table; the death of Péan, Bouilly and so many other eminent Surgeons here and elsewhere, who have fallen like soldiers on the field of action, all attest to the intensity and strain of the mental processes upon the brain of the conscientious operator.

"The period for remunerative work in operative surgery, is probably shorter and more beset with perils than in any other profession. The soldier and the sailor must stop at sixty-two years, but the Government supports them for the balance of their lives. The civil engineer, the mechanical engineer, the electrical engineer, the chemist, can keep on indefinitely. The medi-

womanly affectionated to weep or tremble; neyther must he gieve place to the cry of hys soare patients, for soft chirurgeons make foul soakes, on the other syde he may not play the parte of a butcher to cut, rend or teare the body of mankinde. For it may be frayle, soare and weak, yet it is the pleasure of God to call it his Temple, hys instrument and dwelling place." (Wm. Buiellein, "Bulwark of Defense," 1579, see Alfred J. Browne, *Masterpieces of Surgery*: Surg. Gyn., Obs., p. 302, XI, Feb., 1925.)

cal man can continue as a consultant as long as he can get about, and we have it on the authority of Oliver Wendell Holmes, that some people, "like their Doctors mouldy like their cheese". When the clergyman grows more and more prosy, doctrinal or orthodox, he takes a colleague and prosos on. When a lawyer is about fit to put on the shelf, he is put on the bench instead. But when the operating surgeon begins to fail, he has to stop. A man who is something more than a mere craftsman can perhaps continue as a pure consultant, but the pure operator is done, and is done for ever." (Da-Costa.)

Age

Again, there is age, the youth that all have enjoyed, and that all will lose and that will vanish some day. "The surgeon must be young," is the old Celsian tradition, but with Faure, let me add, "He must not be too young." No doubt that while young he exhibits that vivacity in his gestures and that quickness of movement which contribute so largely to the fine discipline and teamwork of an operation. He will have the sacred fire, the qualities of boldness and even of temerity; his is then, the spirit of enterprise that makes for progress and discovery, but he will not have the maturity of judgment that comes with long experience, that nothing can replace in moments of grave decision. What must be asked of the surgeon is not that he should be young, but that he must not be old. "When old age appears at the turning of the road, when the sacred fire begins to flicker, and the hand to tremble, and the eye to blur, it is then time that the surgeon should think of rest. Let him then do as the tired wayfarer, after a long journey, resting by the wayside, look on and watch the passers-by who have followed him in the rugged but wondrous road that he, himself has trod. Then let him, like the ancient sage, end his last days under the comforting shelter of shady trees and in the gentle embrace of Mother Nature, dream of the good that he may have done."

THE QUALITIES THAT MAKE THE GREAT SURGEON.

These are the qualities, which when properly balanced, sum up the characteristics of a *good* surgeon, but even they do not suffice to make the *great* surgeon. To attain this eminent distinction something else is necessary. He must be original. He must be endowed with the spirit of invention; he must possess a faculty for investigation, or that spontaneous inborn intuition, if you please, which leads a man to seek untrodden paths and discover new truths, new methods, new procedures, or forge new and unknown weapons to battle with disease or stay the hand of death.

His ideas, his teachings, his discoveries will survive, and continue to flourish beyond the

grave and long after he will have disappeared from the earth, as that of a benefactor of the race; but even after his works have become only a memory, and his inventions a relic or a milestone to mark the progress of the ages, his example will remain a tradition and a spiritual legacy to immortalize his fame.

Here in Surgery as everywhere the superior men, supermen if you will, are rare, but when one appears in our profession, one who embodies all these creative faculties, we recognize him as a *great surgeon*. But such a title is not one that any one living can pretend to own. "It is only attached to the laurel wreath that is placed over the graves of the dead, with the immortelles, that only posterity can weave into garlands,—for those who have not perished entirely and who have survived and live through their deeds." Such a man was Henry Jacob Bigelow. He was an inventor, a discoverer, a benefactor of his race. To him posterity has already accorded a conspicuous place in the pantheon of medical history, and inscribed his name on her records as that of a *great surgeon*, crowned with laurels and a wreath of immortelles.

Ladies and Gentlemen:

We have met here tonight to commemorate the life and the services of a great man, a great surgeon, and a great citizen, and through all these qualifications a great public benefactor. I have dwelt sufficiently upon Dr. Bigelow's extraordinary personality and his achievements to attest the enduring fame that has survived him, to the lustre that he shed upon American surgery, to the benefits that he conferred upon his people, and to the renown that he added to the great commonwealth which has given to the nation so many of her most illustrious sons. For the great privilege accorded me to join the distinguished fellows of the Boston Surgical Society in doing homage to the memory of so commanding and inspiring a figure in American Surgery, I am deeply grateful and thank you, my dear friends and colleagues, from the deepest depths of my heart.

A TRIBUTE TO DR. WILLIAM STURGIS BIGELOW

Ladies and Gentlemen:

I cannot part with you tonight without expressing a profound regret at the absence of Dr. William Sturgis Bigelow from this gathering, the distinguished son of a distinguished father, who has now passed "unburdened by the flesh" to realms beyond the reach of my voice or of my praise. It is through him and through his filial devotion that the Boston Surgical Society has been able to give a material and beautiful expression to the sentiments of admiration and pride which the surgeons of America have shared with him in gratitude for

the imperishable legacy that the genius of his father, an ideal surgeon and master craftsman, has left to posterity through his example and achievements.

But it is not purely out of brotherly sympathy and in grateful recognition of his generous aid in founding a permanent testimonial to the memory of his father that we honor the name of William Sturgis Bigelow, the son,—for he in his own right, and not by reflected light, has won his title of greatness in the hearts of his people and in the hierarchy of medicine, as one of the intellectuals of our profession. The fourth in the line of an extraordinarily gifted succession, Dr. W. Sturgis Bigelow perpetuated the traditions of an illustrious medical family which has left an indelible impress in the intellectual life and material progress of this great city,—a city renowned over the globe for its culture, its learning, and its glorious history; the fountain source of the purest of American ideals of justice, of knowledge, of freedom, and of humanity.

Like so many countless others of our profession who come here to seek knowledge and instruction in the work and example of the great masters who flourish so prodigally in this favored soil, I came here from the far South in the earliest years of my professional youth, to drink the sparkling waters of knowledge that flow so copiously and inspiringly from the amphitheatres, the lecture rooms, and the wards of your hospitals and medical colleges. While busy fulfilling the purposes of my medical pilgrimage I was irresistibly tempted to wander into other than Æsculapian shrines by the treasures of art that are stored in your Museum of Fine Arts, a veritable temple of aesthetic culture. It was here that I first learned to associate the name of Bigelow with other arts than those purely surgical. For it was here that my eyes first feasted on the beauties of the Bigelow collection of oriental art that is admirably typified in the ancient and inimitable artistry and handiwork of the Japanese masters.

But it is only recently, and, in fact, only since reading Dr. Shattuck's masterly and touching tribute, that I have learned that it was he, William Sturgis Bigelow,—the son of Henry Jacob,—the modest, retiring, mystic, but learned scholar, the philosopher, to whom the people of Boston and all the lovers of the beautiful in the fine arts, are indebted for the priceless Japanese collection that had roused all my enthusiasm and wonder so many years ago.

I have no right to speak of Dr. William Sturgis Bigelow's personality, his life work, or his accomplishments, since what I would have to say would be merely a repetition of a story with which you are familiar; it has been told, and only too recently, by one who knew the 4th Bigelow in the intimacy of a long friendship and who held one of the keys that opened the

gates of that secluded and high-walled temple in which the heart of that shy and mystic scholar, philosopher, and generous philanthropist, William Sturgis Bigelow,—was enshrined.

I can only close by echoing the sentiments so admirably expressed by Dr. Shattuck, that the essence of W. Sturgis Bigelow's nature and his life-creed is summed up in the answer of the Japanese priest, who when asked what was the essence of Buddhism, replied: "*In doing good to others,*" and it was in carrying out this precept that Bigelow the 4th, has won the everlasting affection of his people and of all the lovers of the beautiful in the arts that he so assiduously and piously cultivated and so generously promoted.

REMARKS AFTER THE PRESENTATION OF THE MEDAL: DR. MATAS

Mr. President: Though I am a surgeon and a veteran, grown gray in the battles of surgery, and accustomed to many and stirring emotions I confess that I am embarrassed on this occasion to express the grateful sentiments that are evoked by the presentation of this precious testimonial medal, which bears the image of the immortal Bigelow, and which henceforth and for all time, or at least as long as memory lasts, is to be associated with this most impressive occasion. To be associated even figuratively with the name of so transcendent a personality as Henry Jacob Bigelow is a distinction that is calculated to swell the heart of the worthiest of our guild with pride, and is certain to completely upset the equilibrium of one who has no exalted pretensions to such worthiness. Personally, I am the more sensitive to this extraordinary distinction since it has been accompanied by citations of merit, which I could scarcely credit to myself, but for the fact that they are uttered by two such distinguished friends as Dr. Porter and Dr. Cushing, whose sincerity I cannot question, but whose benevolence and praise have flavored this distinction with the sweetness of their partiality, and illumined with the glamor of their own greatness. It is again an added distinction to have received this medal from the hands of a group of men whom I honor and admire as the highest exponents of the art and science of Surgery to which I have consecrated my life, and from men whose regard and friendship I esteem as one of the happiest and proudest privileges that has come to me, or that could come to any man.

NEW ENGLAND HOSPITAL ASSOCIATION

Sixth Annual Meeting, May 5 and 6, 1927

(Continued from page 786)

A paper on "*The Opportunity of the Dispensary*," was presented by Dr. Cyrus C. Sturgis, Physician, Peter Bent Brigham Hospital, Boston.

THE OPPORTUNITY OF THE DISPENSARY*

BY CYRUS C. STURGIS, M.D.

It is not difficult to state the functions of a dispensary, for this may be done by reiterating the well-known purposes of any institution which administers to sick persons; that is, the care of the sick; second, the teaching of medicine; and third, contributions to the advancement of medicine and surgery. It is universally acknowledged and emphasized that the primary purpose and by far the most important aim, which supersedes all others, is to provide intelligent and thorough medical care to persons presenting themselves for examination. An important fact which I do not believe is fully appreciated, is that the secondary functions of a dispensary, those of teaching and research, have a large part of their value in stimulating interest in the patient and concomitant problems, which ultimately means a better staff, more careful examinations, more accurate diagnoses, better records, and more efficient and rational treatment than would otherwise obtain. Teaching and research are the stimuli which inspire and sustain any medical worker when routine grows monotonous.

It is my opinion, on considering the many difficulties under which dispensary workers labor, that they have done exceedingly well, yet I sincerely believe that some of the greatest opportunities have remained untouched, although the day is not far distant when this field will undergo extensive development. On reflection, it is not difficult to understand why the dispensary has failed to keep pace with the other departments of the hospital. The chief obstacle has been the almost universal attitude that the wards constitute the all important part of the hospital, and the dispensary is worthy of little notice except as a source of patients who are to be admitted for study or treatment. Another most important fact that has retarded progress is the personnel of dispensary workers. In some instances they are the youngest and, therefore, the most inexperienced members of the staff, who are attracted to the position only by the lure of advancement to a position on the wards of the hospital. They regard their position as a temporary rather

than a permanent one and patiently await the time when their "apprentice days" are over. The point I wish to emphasize is that the problems encountered in an Out-Patient Department with respect to diagnosis, treatment and general care of patients, often require more clinical acumen and judgment than the management of patients in the hospital wards, and therefore it appears logical that the most expert and experienced clinicians should be assigned to this work. Out-Patient physicians are, furthermore, unduly burdened with routine duties, as they are usually obliged to see all the patients who come for examination, whereas the number admitted to the wards of the hospital is limited. The situation concerning the wards of the hospital is very desirable as indicated by the satisfactory results, but the disproportionate small amount of time which is allotted to dispensary patients is amazing. Here the day is crowded with the constant press of patients and there is no time available for other than rather hurried routine work. As a result it receives but little support in interest, attention or funds, and the uninspired staff performs its duties in a listless fashion. If this is all that is expected and desired, then dispensaries are functioning satisfactorily. The chief points which should be emphasized, however, are the neglected opportunities in this field and the great possibilities of development in many directions.

OPPORTUNITIES FOR TEACHING

In many instances, the location of dispensaries affords no possibility for the development of this function, but many times the opportunity of teaching medical students, post-graduate workers, or nurses, is ignored merely through lack of interest. It is indeed very rare to observe much enthusiasm for teaching in the dispensary, even in hospitals associated with the leading medical schools, as instruction in the clinical branches is centered about the hospital wards. On reflection, it appears to me that most medical schools fail to teach the important aspects of medicine which are frequently encountered in dispensary patients, such as minor ailments, the earliest manifestation of disease, and that large group of patients suffering from some form of functional disorders. In other words, we do not teach the type of medicine which consumes a very large part of a general practitioner's time. A large proportion of patients who are admitted to the wards of the hospital show the end picture of an advanced condition and in many of these the diagnosis is

*From the Medical Clinic of the Peter Bent Brigham Hospital, Boston.

easily recognized by an inexperienced clinician. For example, it is interesting to note the ease with which a fourth year medical student will deduce the correct diagnosis from a short summary of the history, physical examination and laboratory findings, in a patient with a well marked condition. But had a student encountered such a patient in the early stages of this disease, and been told to elicit a history and ascertain the abnormal physical findings, and following this, to arrive at a diagnosis or to plan a course of study which would assist in the diagnosis, then his inexperience would be apparent. It is this important type of training which the medical schools have failed to emphasize, as dispensary teaching has not received the proper attention in this country.

THE DISPENSARY TEACHING CLINIC

Dispensary teaching might be conducted according to a variety of methods as follows:

1. Teaching physical diagnosis to small groups of second or third year students.

2. Study and care of the patients by third or fourth year students who act in the same capacity as the clinical clerks on the medical wards.

3. Offering elective courses in various diseases which are grouped in special sections of the dispensary, such as heart disease, nephritis, diabetes, thyroid diseases, and many others.

4. The presentation of a one hour clinic, once a week throughout the year, to third or fourth year students, or both, using dispensary material exclusively.

OPPORTUNITIES FOR RESEARCH IN DISPENSARY WORK

I do not propose to state any specific problems which may be investigated in an Out-Patient Clinic but to indicate in a broad way that clinical research is always possible if an observer comes in contact with a sufficient number of patients. So often large groups of patients are under the care of one physician for long periods but no new useful information is derived from the contact, either on account of the physician's lack of interest, insufficient time for the careful study of the patient, or some other reason which might easily be altered.

The dispensary, with its large number of patients, offers great possibilities for the careful appraisal of various types of therapy as the ambulatory patient may return at intervals over a long period for observation while the ward patients, as a rule, can only be observed for a relatively short time. Many times a new type of treatment is formulated and based upon studies made solely upon patients who are un-

der constant observation in the hospital. This may produce splendid results under these circumstances, but fail completely in universal application because the procedure is too complicated for use in the patient's home. Such treatment, therefore, is not of value to the practitioner because it is not given to them in a usable form. Many times, a suitable revision and simplification might readily be accomplished by the application of the treatment to a series of dispensary patients, and released in a finished form for widespread use after the detection and elimination of its impracticabilities. An excellent illustration of this particular point is the modern treatment of diabetes. The basic therapeutic principles of this disease were first originated and perfected from studies made upon patients who were under continuous observation in hospitals. Following the success of this innovation there still remained the important problem of how these new methods could be applied successfully to ambulatory patients. It has only been by recourse to private practice and dispensary patients, that reliable methods dealing with this phase of treatment have been established on a sound basis. Problems of similar nature in the home care of patients with heart disorders, tuberculosis, nephritis, pernicious anemia, and in fact almost any chronic disease, await the dispensary worker who is eager to add new and useful information to our store of medical knowledge. It is not always the most important thing to determine the success of a given treatment in a chronic disease while the patient remains in bed on a hospital ward; the essential information to learn is the efficacy of the treatment following discharge from the hospital. For example, if a drug is discovered which lowers a high blood pressure, it is of a great deal more practical significance to learn if this effect is produced and sustained while the patient is ambulatory and leading at least a moderately active life than if it acts only while the patient is confined to bed. It is through the dispensary only that the hospital investigator is likely to determine useful information of this nature.

In addition to determining the effect of new and rational therapy in chronic diseases, the dispensary can also contribute invaluable information concerning the spontaneous course of the disease in those conditions which have no known treatment of value. A series of careful and prolonged observations in any chronic disease, over a space of years, would add a great deal to the rather inexact subject of prognosis. Such observations, with a few exceptions, can not be carried on elsewhere except the dispensary. It is not possible in hospital wards, as the patient's residence there is only for relatively short periods, and while a patient may be admitted several times, at intervals of two or three years, this is the exception rather than

the rule. Even under these circumstances, it is impossible to learn accurately in many instances, what has transpired in the interim between the admissions. In many dispensaries at present, an effort is made to follow the condition of patients to determine the end result of treatment or the course of the disease, but often the attempt is too brief and unsystematic. This usually results in casual observations by a series of different physicians who have no special interest in the patient or the disease from which he is suffering, and consequently the requisite information is not accumulated.

As in the appraisal of various types of treatment, likewise the dispensary affords a splendid field for the development and study of various types of new tests and aids in the diagnosis of disease. Although it has doubtless occurred, I cannot cite a specific instance in which a clinical diagnostic test of importance has originated in work centering about a dispensary, although I do not know of a real reason why this could not be accomplished. It is entirely conceivable that the two most widely used methods for the study of the renal function, the phenolsulphonphthalein test and the determination of the blood urea nitrogen, might have received, at least the clinical confirmation of their usefulness in studies made on dispensary patients. The same is true of the Wassermann reaction. In similar studies the dispensary might easily contribute, in a very short time, extremely important and reliable data which either confirm or disprove the value of some of the new diagnostic measures which appear in the medical literature. To accomplish this requires only a reasonable knowledge of the current medical literature and the initiative to observe the reliability of any new test on a sufficiently large number of patients. The possibilities of useful problems involving this type of investigation in the dispensary are countless.

THE ORGANIZATION OF A DISPENSARY

To organize a dispensary which will develop to the highest efficiency the care of patients, teaching and research will require a radical departure from the present-day policies which govern a majority of such institutions. In many instances, especially in small, isolated hospitals, it is impossible to alter the character of dispensary work other than to introduce changes which will permit the attending physicians to spend more time in studying and observing their patients. In dispensaries which are associated with the teaching hospitals, however, various innovations might be introduced which would result in a great improvement in many directions.

To accomplish its greatest development the dispensary should be emancipated from its subservient position to the remainder of the hospital, although the work of the Indoor and Out-

Door departments should always have the closest correlation. The dispensary, however, should be considered an entity to itself, with a future entirely of its own, problems of a different type to solve, employing somewhat different methods in the management of patients, and teaching a different, and at present a somewhat neglected, aspect of medicine. It is true that patients should be sent from the dispensary to the hospital wards and should be returned to the dispensary for observation following their discharge from the hospital, but as far as this relationship is concerned there is an interdependence between the two activities of the hospital rather than an entire dependence of one upon the other. The separation of the dispensary from the wards of the hospital will never be accomplished, however, until it too, as the hospital wards, has a Physician-in-Chief and a Surgeon-in-Chief, with a comparable rank in the Medical School, and upon whom rests entirely the responsibility for the success or failure of the venture. It is too much to expect the chiefs of various sections of the hospitals to devote as much time and enthusiasm to the Out-Patient Department as they do to the wards, for the latter in themselves, require their full time and energy. It follows that the care of the sick, the teaching and research, have developed to a high level in the hospital proper while progress in the dispensary has been less apparent.

To secure the proper type of chief for such a service in dispensary work it is necessary that he should be offered the same inducements which are commonly associated with corresponding positions in the hospital proper. He should be the sole responsible head for all of the activities in his particular section of the dispensary, including care of patients, teaching, and the direction of research. It should be his duty to select and recommend to the trustees all of the physicians in his department, and he should assume the responsibility for the character of their work. Such a physician in chief should above all things have interest in clinical medicine, and at the same time a passion for teaching, and enthusiasm for research which is tempered with critical judgment. His duties could easily require his entire time and energy, for which he should be paid an adequate salary from the hospital and medical school. In addition, he should be furnished with suitable offices and equipment in the dispensary, with the permission to engage in a reasonable amount of consultation practice. If an undue advantage is taken of this last concession, then the proper man has not been selected for the position and a suitable successor should be chosen.

The organization of work in a dispensary requires considerable discussion and I must concede that there is often an opportunity for an honest difference of opinion. In some instances, it is only possible to say that the present meth-

ods are unsuccessful, and although several different plans may be proposed, the final answer can only come from their actual trial. Although the organization of many dispensaries is complex, I believe that the subdivision into an almost countless number of departments each with a chief, is often unnecessary and leads to less efficiency through the subdivision of responsibility. To simplify the discussion of the problem, it is helpful to consider first the dispensary which has only two divisions, those of medicine and surgery. To the former section, all patients except those with obvious surgical lesions such as fractured bones or other traumatic conditions should first be referred. This is not because the surgeon is any the less skillful in the art of diagnosis, but because he has one large aspect of his profession, the operative one, which consumes a very large part of his time. Moreover, the surgeon would have an opportunity to exercise his diagnostic ability when called in consultation by the physician, to confirm or eliminate the impression that operative treatment is necessary. If possible, all patients who appear for treatment should first have a general examination before being referred to consultants in the various specialized branches of medicine. In many instances this may be very brief as often it may be determined in a few minutes if the condition from which the patient is suffering is entirely confined to the eye, ear, skin, nervous system or other parts of the body, which are treated in some special part of the dispensary. Other patients require a careful history and physical examination before determining the diagnosis, and adequate time allowance should be made for this.

THE DIAGNOSIS OF CONDITIONS REQUIRING MORE CAREFUL OR PROLONGED STUDY

One great problem in dispensary work is the care of ambulatory patients who have complicated and obscure conditions which require more careful study than the present routine of most clinics permits. This problem is solved at present by the only plan which is available and that is referring the patient to the hospital for a period of observation which usually averages about a week. Such a procedure is poor economy for both the patient and the hospital as the main reason why such an individual must be admitted is because the dispensary physician has neither the time nor equipment to make the proper studies. As a result the patient is confronted with the difficulties of being absent from home and work for a variable period, in addition to the expense incident to hospitalization which is often an unforeseen burden. For the hospital it means admitting to over-crowded wards, an ambulatory patient, who is suffering from a condition which should not require hospital care. Moreover, the admission of such a patient may exclude another in whom carefully

supervised treatment in the hospital is life saving. There are no unsurmountable reasons why most ambulatory patients cannot be studied in dispensaries with mutual and obvious advantages to both the hospital and the community.

If it is agreed that the studies of this nature in certain patients are desirable, then the question may be asked, what are the present obstacles in most dispensaries that make such observations impossible? The answer is that there are only two main ones, the lack of time and equipment. The former might easily be remedied by the institution of a unique feature in dispensary work, that of assigning two or three periods at which time an hour, or more if necessary, may be devoted to any patient requiring special study. It would be possible to permit each worker in the general dispensary, a morning or afternoon at which time he could devote his entire energy to this work, assisted by the chief of the clinic in consultation. This available time could be devoted to securing a more careful history, or making a more detailed physical examination. Furthermore, if the proper equipment were at hand, it would be possible to collect data which is derived from the more complicated procedures, such as electrocardiography, clinical colorimetry, lumbar puncture, gastric analysis, and other tests; in fact, almost any information could be obtained under these circumstances except continuous and prolonged first hand observations of the patient's symptoms and signs, and records of the temperature, pulse and respirations. At the conclusion of the observation period it is reasonable to suppose that the results would be as satisfactory in most instances as those following a residence in the hospital wards for a week or more.

In conclusion, let me emphasize again that even a superficial examination of dispensary work, as it is conducted in this country at present, indicates that many opportunities are being neglected and the next ten years will see a great development in this field.

THE CHAIR: Dr. Wells, will you open the discussion of this very interesting paper?

DR. WELLS, Director Out-Patient Dept., Massachusetts General Hospital:

This very excellent paper seems to have covered the subject pretty thoroughly. The dispensary is ordinarily a part of a large hospital. It is not something that we generally find in small hospitals, with which perhaps many of my hearers are more acquainted. As I have seen the work of the dispensary over a number of years at the Massachusetts General it seems to me the most important thing we are doing; and the thing for which the dispensary exists is the treatment of patients. No one has any idea of the problem of the sick in the community. The dispensary gets a few of the ambulatory sick. That proportion which comes to the Massachusetts General—about six or seven hun-

dred every day—represents only a part of the problem. Now the opportunity of the dispensary in any community is represented by their sick; and the real problem is to get hold of the sick who do not come, and to get them treated. I don't know how it can be done; but it seems to me, in thinking over this problem of the opportunity of the dispensary in connection with the arguments covered, to raise the question whether in some degree that problem of getting these unknown people in the community might not be answered by the small hospital. I have been very much interested in the past two or three years in several institutions in which my attention has been turned to small clinics in hospitals in small communities. I saw some in Vermont last summer, and I have seen some in various parts of Massachusetts and in New Hampshire, and I have wondered if in the out-patient clinic, or dispensary as we like to call it, attached to the small hospital, may not be found the answer to the problem of treating the sick in communities remote from large centres. In the clinics I have in mind men were available for work part of the day in some specialty. In one instance a very successful eye, ear, nose and throat clinic was established some distance from any medical centre, with the result that in that hospital the interest of the whole hospital staff had been stimulated, and it was believed that within the next year other specialties would be represented in the clinics. The dispensary used to be thought of, as some one has said, as a poor place to do poor work for poor people. Now the modern dispensary need not be that. It is a place where good work can be done for poor people at small expense. Recently there came to my office the report of a Des Moines health centre where they had kept statistics of the dollars and cents of value of the work their clinics had done through the year. I was interested in those statistics; I had never thought of keeping statistics in that way; but they had kept an accurate account of all services rendered to their patients. About 16,000 patients had been treated in the clinics controlled by that centre. At the minimum rates charged in Des Moines this would cost something like \$89,000. These services were secured for about \$13,000. That seems to represent what the clinic is able to do in the community. As I said, there is a vast field as yet untouched, which nobody knows anything about, and which, as I see it, represents the opportunity of the dispensary in the community.

DR. BAKER: As I understand this paper, it makes a plea for more scientific work in our dispensaries. I come from a small hospital where we have perhaps fifteen or sixteen various clinics in the out-patient department. It would seem to me that one way to develop better work would be to establish more pay clinics in conjunction with the free clinics. I think that could be done, and it seems as though it would

encourage the visiting men in those departments to do better work. In some instances I have known of that being done. It seems to me one step toward developing more scientific work in our big dispensaries.

DR. RICHARDSON: It has been my privilege to see a great many internes, and I have been impressed by the mis-education of a lot of them. The hospitals generally have arranged their service so that it terminates in a surgical service, and when a man gets through with his hospital training nothing appeals to him except gall-bladders or a gastroenterostomy or some major operation, and he goes out into the world with that in mind,—he is going to be a surgeon, and won't look at anything smaller, and many men have gone out and done very discreditable work both to themselves and to the community. I think Dr. Sturgis' paper is most interesting, because I feel that the out-patient department is a valuable part of the hospital from the educational standpoint. In fact, I believe each interne should end his service in the out-patient department. In some places they work in the out-patient department before they begin their service, and they are of no use there to themselves or to the department or to the patients. His final training should be in the out-patient department, and the last service every interne has should be medical; because it is ambulatory cases such as come to the out-patient department that are going to walk into his office, and he will have a better outlook if he has just come from the medical service in an out-patient department. There are altogether too many aspiring surgeons. I think it would help a great deal in the education of physicians to build dispensaries as they should be built.

DR. STURGIS: The only excuse for any institution's existence is to take care of sick people, and they can be better taken care of if clinicians are allowed to indulge in a little research, and if they are given ample time and equipment to study patients. It is my opinion that too many ambulatory patients come to hospitals for observation; it is expensive for the hospital and for the patient. Furthermore there is no reason why many of these patients cannot be studied thoroughly in the out-patient department. Suppose they came back three or four times a week for an hour or so, that would be better than going into the hospital for a week. If they cannot pay, it is a losing proposition for the hospital. There is no reason why those cases, though complicated, cannot be studied in the out-patient department, and so save the hospitals' money and the patients' money.

Meeting adjourned until 9:30 a. m. Friday, May 6.

FRIDAY, MAY 6, 1927, 9:30 A. M.

Round Table Discussion, conducted by Dr. Joseph B. Howland, with special reference to problems of small hospitals.

The first question presented was: Should a hospital have 100% collections from its private patients? If not, what should be the natural shrinkage?

MR. STACKPOLE: I believe that approximately 100% collections should be made from private patients, outside of exceptional cases. When private patients do not meet their obligations, I think the proper method is to present these accounts to a responsible member of the board of trustees, for such legal action as the board deems advisable, rather than to place them in the hands of a commercial collecting agency, whose efforts to collect the account often react to the detriment of the hospital.

MR. GARDINER: I have practically no trouble in getting collections from private patients; we lose practically nothing. We have some trouble in collecting from other patients; but we do not lose more than ten or fifteen per cent.

DR. STONE (Bangor, Eastern Maine General Hospital): We lose probably less than ten per cent. on the bills of private patients. We have men who collect for us both from ward and private patients.

DR. HOWLAND (Peter Bent Brigham Hospital): We have patients recommended from all over the country, some very urgent cases, particularly neurological-surgical cases, with rapidly growing brain tumors endangering the eyesight, in which, if anything is to be done, it must be done at once. We do not have time to look up the credit of such cases. Occasionally we get, in this way, a large account which is uncollectible. If patients are admitted to the private ward, we do not hesitate to use all legal means to collect such bills.

A MEMBER: I know other institutions where bad checks have been given by people, who have afterwards gone from one address to another, and couldn't be found. From the very nature of its work, I don't think the hospital can expect 100% in collections. They have no opportunity to look people up to see if they are good risks. We have to do things in an emergency. The automobile accidents have presented an entirely new problem to small hospitals in the country. A terrible accident takes place; people with all the signs of wealth, driving a large, handsome car, are brought to the hospital, and want the best accommodations, and get them; and then they go off without paying their bills. They seem to be a very irresponsible class. I think perhaps the best way to deal with these people is to demand payment in advance, and that payment be kept in advance. I have said to them: "Unless your bill is paid, and kept paid in advance, I shall move you into a public ward," and then I make good that threat. If they understand that they can't stay in a private ward unless they pay, they are likely to pay. Of course, in some instances they are too sick to be moved.

MR. GARDINER: We have found that in the automobile accident cases it is usually two or three years before the hospital gets to them; no one is responsible for the bill.

MR. WHITCHER (New Bedford): We put all patients in the public ward unless they obligate themselves to pay the hospital bill. We don't take into consideration the insurance company. Unless they obligate themselves to pay the bill, they go into the public ward.

MEMBER: We found that people would obligate themselves by word, under stress; but after a time they would go back on their promise; that is when we use the threat, if they don't pay the bill.

DR. HOWLAND: Our custom used to be to take the friend's word or the patient's word, and record it on the admission slip. Then if the bill wasn't paid, and the time came to put it in the hands of an attorney, it was a case of our word against the individual; they might say they didn't agree to pay it, and we, that they did. We have changed that by having a little contract made out in two forms suggested by our attorney; one form is for the patient to sign, when he is able; and the other form is for the friend or relative to sign, agreeing to be responsible for all bills; they are made out in duplicate, and are signed and witnessed by the admitting officer. The original is given to the person who has committed himself to the payment of the bill. The duplicate is kept by us, and attached to the admission slip. We find that is a perfectly good contract, and a very helpful reminder to some one that he has signed his name to the contract.

A MEMBER: Can you collect on a contract for a hospital bill? Is it a moral obligation, or compulsory?

DR. HOWLAND: I am advised by counsel that our form is a good contract. It gives one something to work on; at least the patient or relative can't say that they haven't agreed to pay the charge.

Dr. Howland then read the next question presented as follows: "Is there any way of telling how much ground a painter should cover in a day?" I suppose that means how much wall surface. Can any one answer that?

A MEMBER: I might say that I handed in that question, and in using the word "ground" I refer to wall. In other words, we have painters in our institution; and it is quite difficult to say whether they are working or not; I want to know whether they are painting or loafing.

DR. BAKER (Union Hospital): Preparing and cleaning and filling cracks, and getting ready, takes about one and one-half days for an average-size private room.

DR. HERSEY: I certainly couldn't answer that question. I believe the tendency today seems to be to take as much time as possible to accomplish anything. It is very unusual to find

an employee of this type who is interested in rushing. I find my painters employed constantly by the hospital are all the time telling me how much more work they do than the contract painters; and the contract painters tell me how much better and how much faster they do. I happened to go into a room where the painter was working yesterday; when I went in he was sitting on the top of the ladder, looking as if he were just taking his brush off the ceiling. As it happened to be a white-washed ceiling, and he was painting the walls, I couldn't see how it indicated that he was working.

DR. HOWLAND: The next question is, "Are post-mortems of importance in all hospitals?" Dr. Brown of the Mary Fletcher Hospital.

DR. BROWN: The reason I brought the subject up in that way is that it has already been discussed by Dr. Christian as being important in connection with hospitals that have internes,—teaching hospitals. The question is, whether all hospitals consider it important to push the matter of securing post-mortems.

Regardless of the size of hospitals, or of whether or not they are teaching hospitals, whether they are well equipped or poorly equipped, or whether they have a large or small staff, there is one thing that is of prime importance in all hospitals, and that is the patient. The patient, of course, is always the first consideration; and in order that the patient shall have the best possible care, you must have the best possible staff. The beginning of the study of medicine starts with the study of the human body,—anatomy. In order to continue the study of medicine, it is necessary to continue the study of the human body, and that can best be done by studying at the post-mortems, where the record of the disease is written in such a way that those who are trained can read and interpret. In the address given by Dr. Christian in Chicago, in February, 1926, he made a report showing the percentage of post-mortems in various institutions, ranging from 86% at the Mayo Foundation to 5/10 of one per cent, at the Carney Hospital, showing that institutions do not equally value the post-mortems. At any rate, it would seem as if they did not. Of course, the Mayo Foundation is essentially a teaching, as well as a treating, institution. That is probably one reason why they have so high an average of post-mortems.

What may be accomplished in the way of securing post-mortems, I discovered by a little examination of what we had done in our institution, where in 1924, with a total of 99 deaths and 9 stillbirths, we had 19 post-mortems, 11 of which were on medical cases; 46 medical deaths and 11 medical post-mortems; 30 surgical deaths and 7 post-mortems and 1 obstetrical post-mortem; making the number of post-mortems just under 20%. It was rather a peculiar coincidence that the next year we had exactly

the same number of deaths, with 10 stillbirths, and exactly the same of post-mortems, 19; still just under 20%. In 1926 we started in to make sort of a drive on post-mortems. I tried to interest the staff in securing them for themselves. Previous to this, it had been left very largely to the office administration to secure post-mortems, and we had done what we could to secure them; but we found that the man in attendance, the surgeon or physician, had very much better success; that in almost all instances where post-mortems were asked for they could be secured.

We have a law which makes it possible for the city health officer to order a post-mortem if the doctor in attendance refuses to sign the death certificate on the ground that he doesn't know the cause of death, and I think perhaps we have availed ourselves of that law a number of times, not always to the satisfaction of the relatives, but, I think, generally without making very much enmity. One other thing that has helped tremendously in getting post-mortems has been the attitude of the undertakers, who are very accommodating, and have in a number of instances secured post-mortems for us. If their attitude is that it is a lot of bother, that it will take much longer to embalm the body, and that it will not look natural or as well, they can do a tremendous amount to hinder getting it, but their coöperation is very helpful. We had an instance a couple of days ago: the mother of a boy who had died during the night had got away from the hospital before any one had asked her permission for a post-mortem; and the undertaker took the pains to go to see her and ask for her permission, and he secured it. I may say that he is a rather unusual undertaker, not only in helping us in this way, but in conducting affairs generally. There was a little insurance in this case, and he made it appear to her that it would be distinctly to her advantage to have a post-mortem.

As to the value of post-mortems, of course we are desirous of getting them particularly because the third or fourth year class, or both, are usually in attendance to see what goes on. It strikes me, however, that it is even of more value to members of the staff, or other members of the profession who may come, because every once in a while we come upon something that shows how easily mistakes are made. I remember an elderly woman who was brought in in an unconscious condition; the doctor in attendance upon her was a young chap, admitted to the hospital the year before. The woman had been treated by a chiropractor. The unconsciousness had come on suddenly, with a certain amount of paralysis. The family had got an idea that she had a broken neck, and the doctor was inclined to believe it. They were very willing to grant a post-mortem. Upon examination it was found that she had had a very profuse cerebral hemorrhage, which exonerated

the chiropractor, and made the family feel better. Things are constantly coming up where the post-mortem makes possible a correction of diagnosis, or additional diagnosis.

One of the things that interested me in scanning the reports of post-mortems was that we are pretty likely to form opinions as to certain diseases being more fatal than others, and being the chief cause of death. Among these, not only among the laity but among the profession, is kidney disease, nephritis,—we are likely to think that this is serious, and more frequently the cause of death than it proves to be. In running through these deaths on which we had 80 post-mortems, I found the primary cause, or the important contributing cause, of death to be

arteriosclerosis	11	
kidney disease	10	
cardiac	18	
pulmonary	10	
accidents	9	
malignancy	7	
brain tumors	2	
gastro-intestinal	11	(these in connection with operation)
sepsis	4	

Just one other thing in connection with what post-mortems may reveal. We had one maternity case in which the patient developed, shortly after delivery, within a day or two, a temperature, and ran a septic temperature over several weeks. In this case there was pulmonary involvement, and the doctor in attendance was inclined to lay the disturbance to the pulmonary condition, and along with it there was some censure of the hospital. At the time of the post-mortem it was clearly demonstrated that the infection had spread from the uterus, and that the infection of the lung was due directly to the infection from the uterus, which was what some of us had thought. In this case we were able to prove what we had thought was true. Other times we have discovered that things were not what we thought they were.

It seems to me that every hospital should be a teaching hospital, for the benefit of its staff and of other physicians in the community, in order that they may continue to progress; and I don't think any kind of research can be done so nearly at first-hand as in post-mortem.

MISS CURTIS (Cooley-Dickinson Hospital): I should like to ask if the hospital has a resident pathologist? If not, who does the autopsy?

DR. BROWN: We have a pathologist who does the work. But even men who are not particularly skilled in post-mortems can secure some benefit from them; though, of course, skilled men get much more. I see no reason why the man in attendance should not have permission to perform a post-mortem.

DR. BAKER: We have no resident pathologist, but we have a pathologist on the staff, also a medical examiner.

A MEMBER (from Lawrence Memorial Hospital): One of our staff of surgeons is medical examiner, and he has opportunity to do a great many autopsies. He always does the autopsy for any one who may procure permission for an autopsy.

DR. HOWLAND: I am very much interested in this matter. I have been preaching it for twenty years. There are many hospitals that are doing almost nothing along this line.

DR. BROWN: There was one point I meant to bring out,—that when we made our drive, in 1926, to increase the number of autopsies, we went up to 40%; whereas before we had been just under 20%.

DR. HOWLAND: Some of you will recall that this subject was discussed at the Worcester conference two years ago, and the pamphlet was reprinted and sent to all the members. The President of the Funeral Directors' Association in Massachusetts said that his Association was in sympathy with getting autopsies; but we found that they undoubtedly had much to complain of in the way of proper care of the bodies, that they were not delivered to the undertakers in good condition. If any of you have not had that reprint, and want it, the Secretary still has some, and would be glad to mail a copy to any one. It is well worth while to review it, if you are interested in this subject.

The next question presented was, How do you figure your free patients?

DR. MACIVER: We take the total revenue received for the board of patients and apply it as far as it will go to the per capita cost rate on the operating expenses; the difference between this and the total days' board gives the number of free days.

A MEMBER: I should like to say that at the end of the year we multiply the number of days at the actual cost, rather than at the rate charged for the ward—if our ward rates are \$21 a week and it cost us \$4.60 a day to take care of a patient, we multiply the number of free days by what it costs us.

MISS COLEMAN: I should like to know if the patients occupying free beds in an endowed hospital are considered free patients, in making the annual report. Those beds have already been paid for. Should patients admitted to free beds, beds which have been endowed, be considered free patients in an annual report?

DR. MACIVER: I think they should be considered free patients.

DR. HOWLAND: It is an interesting question. A patient is admitted free; as far as he is concerned it is a free bed; but the bed is covered by endowment.

MISS COLEMAN (Milton): We have money collected by ladies of the town to pay the charge for patients unable to pay for themselves. (Those who can pay \$3 are considered full pay, though the cost is \$3.44.) I should like to

know whether, in my report, these patients who are paid for out of the fund should be considered free patients.

MR. RICHARDS: If you have a fund, given perhaps by a church, and the church designates a patient to come into the hospital, it seems to me he should come as a paying patient, and charged against that fund. I don't see why you should call them charity patients.

MR. GARDINER: I have seen some hospital reports with headings "Free Beds," and under those headings the number of days those beds were occupied.

DR. HOWLAND: I don't think you need to balance every cent. If the figures show how much free work you are doing, you can arrange your tables in any way you please.

MR. STACKPOLE: If the amounts given for specific free beds were to be deducted from the expenses of caring for the patient, it might be said that no institution gave any free service, as somebody pays the expense in every case. It therefore would seem best to determine the number of days actually paid for by patients, and the charges for the remaining days as met by income from endowment for special purposes, gifts, and general fund.

DR. HOWLAND: Mr. Stackpole is a certified public accountant, and what he has to say on this subject ought to be authoritative.

The next question presented for discussion was, How many hospitals pension employees after a period of years' service?

MR. WHITCHER: In one instance an elderly man who had been in the service of the hospital thirty odd years was retired on a pension of \$100 a month.

MR. GARDINER: I have known a hospital to pension two superintendents, but that was an exception rather than a rule.

DR. MACIVER: The Massachusetts General has no regular plan for pensioning employees at any fixed time. It does, however, allow pensions to a limited number by special vote of the trustees. We now have four or five persons who are given small pensions.

DR. HOWLAND: We have a similar plan. We have no pension system at all; but if after long and faithful service, employees are retired, we talk with them and find out what they have saved, and what they need to live on, and the hospital trustees vote them a sum of money to make them happy. I made that statement somewhere once, and was jumped on most heartily; saying that we penalized the employee who saved his money in favor of the employee who had not saved his money.

DR. LEWIS (Burbank Hospital): I should like to know how much it would cost to endow a bed in a general ward, and how much should be set aside for an endowed bed in a private room.

MR. STACKPOLE: Just what does "endowed" mean? Does it mean a bed where a patient can be admitted occasionally, or a bed that may be occupied for any length of time in the year?

DR. LEWIS: I grant that there are two ways of looking at it. I should like it answered in both ways.

MR. STACKPOLE: I should like the first discussion on the first question.

A MEMBER (woman): If a room is endowed, how then should a physician be paid in taking care of that patient? If the physicians on the staff do not give their services in a private room, but do give their services in the open ward, and the patient is sent into a private room which is endowed, by whom should the physician be paid?

DR. HOWLAND: I may say that in some hospitals, no matter who endows the bed, the admission of any patient to a free bed, or an endowed bed, is subject to rules and regulations of the hospital. I think this matter of admitting an indigent patient to a private room where the staff could not collect fees might be subject to such regulations.

DR. HERSEY: I think we need a summer course on this subject.

A MEMBER: With us it is always left in the hands of the superintendent to decide whether a patient in a private room is able to pay a fee. He may, if he so decides, say to the staff, "This patient must be taken care of by the staff without cost to the patient." That is always in the hands of the superintendent.

DR. STETSON: According to our conception of free bed funds, there is only one rational way to accept them, and that is to accept a gift of any amount with the understanding that free treatment will be furnished to the donors of this fund, or to any patient they may designate, to the amount that the income on the fund will purchase at regular ward rates, in a year or in any given time. If the donor wishes to have the privilege of private room accommodations, it is necessary so to state in the bequest; otherwise, it is regarded as being for a ward free bed.

A MEMBER: Do you charge such donors the regular rates?

DR. STETSON: We charge them the regular rate. If you wanted to contribute a fund of that kind, it would be with the understanding that you would be given the amount of free treatment to the amount of the income on your fund. You can do that, or you can put it in the bank, or in any other fund, and buy that service at the regular ward rate.

MR. HAMILTON: I should like to know how a hospital without a social service department determines whether a patient should be admitted at less than ward rates? I am from a hospital in New Hampshire where the patients come from a large area, and it is rather

difficult for us to determine whether an individual should pay the full ward rate, or whether he should be a ward patient, or whether he should come in at private room rates. How is that to be determined without a social service department?

MISS PRINDEVILLE (Lawrence and Associated Memorial Hospital, New London): By holding the doctor responsible who sent the patient in, because he must know something of his finances.

MISS CONRAD (Holyoke): We have discovered that doctors are very unreliable sources of information about financial resources. I don't mean that particularly as a slur on the doctors. But the social service worker has been discovering a great deal. I should think almost any individual who could investigate could do that work, and that a trained social service worker is not needed for that. I don't think it is safe to take the doctor's word.

DR. STONE: We are in about the same situation as Mr. Hamilton. We have patients who come from a long distance, and people whom we don't know; we take a full history of their financial condition on admission, and then write the selectmen or officials of the town from which the patient comes, and so check up their statements, and find out if their stories agree; and in most cases we find their stories do agree. We check them up by correspondence.

DR. HERSEY: Do you mean that the stories of the selectmen and those of the patients, or the stories of the selectmen and of the physicians, agree?

DR. STONE: We disregard the physicians.

DR. HOWLAND: We have had some correspondence with the Boston Branch of the National Association for the Advancement of Colored People with reference to the opportunities for colored girls to train as nurses, and to obtain such training as would enable them to pass the examination of the State Board of Registration of Nurses. One of the correspondents is a trustee of a Massachusetts hospital. He is not here at present, and Dr. Hersey suggests that, while we wait, we have an informal discussion of the subject. It was thought that there might be a committee from our Association to discuss the matter with a committee from the National Association of Colored People. Dr. Hersey, when he didn't know what to do with the correspondence, thought it was good material for the round table. So I have this question:

Where can colored girls in this State receive training as nurses in order that there may be such for the benefit of sick colored people?

A MEMBER: At the New England Hospital for Women and Children.

DR. HOWLAND: That was mentioned here in the letter of the Boston Branch of the National Association for the Advancement of Colored

People. He says they cannot take colored girls to train.

A MEMBER: Is there any real need for such opportunity here in New England?

MISS CANNON: I have a little word on that. Some one consulted me the other day, apropos of this discussion, in regard to hospital care for colored people, or patients of colored physicians, who need hospital care; and the difficulty that colored physicians have in sending their patients to hospitals, and continuing their service to patients in the hospitals. Also the question of the training of colored girls for nurses. Inquiry was made by Miss Crawford, who found that there was no place where girls could get such training. It was found that at Tufts College, in Somerville, in the department for the vocational training of girls, there was some appropriation for training colored graduates of Tufts in nursing, if they could find the hospital that would properly train the colored girl for nursing. They didn't want to spend the money on poor training. The Lincoln Hospital in New York was the only one where they felt they could send a girl, and conscientiously spend their money. I don't know whether the subject was properly studied for New England or not.

DR. LEWIS: I understand that the Lincoln Hospital is a finely managed school for colored women.

DR. HOWLAND: The writer of one of the letters said that he understood that the New England Hospital did train colored nurses, but for some reason they had given it up.

A MEMBER: I believe it was the custom for some years to take two colored girls. I think they realized that the girls would be more or less isolated, and they thought two could occupy a double room, and have each other's companionship. I know they had some unpleasant experiences there.

DR. HERSEY: I will ask Mr. Wing of the Boston Dispensary to say a word about transportation to Minneapolis in the fall.

MR. WING: I asked for this opportunity to make this announcement in reference to transportation to Minneapolis in October: The Secretary of the Association asked that a small committee be organized to take care of the possible needs for transportation of New England people and a small committee for New York people; and the balance of the group around Chicago and Minneapolis, the delegates, are to be invited to spend Saturday, the 8th, in Chicago, visiting Chicago institutions; and they have planned to take the train Saturday evening to Rochester, Minnesota, where by a stop-over of about six hours they will be given an opportunity to see the Mayo Clinics; going on from there to Minneapolis, to arrive Monday morning. That means that some would have to leave Boston on Thursday evening, by the

ordinary trains; but if there are 125 who wish to go at that time, a special train can be arranged, over the Boston and Albany and the New York Central, leaving Boston at nine o'clock Friday morning, and picking up any delegates along the Boston and Albany, and probably connecting with a similar train coming from New York, at Albany, and going on in time to arrive at Chicago at nine o'clock Sunday morning. The only other train that will bring them in at that time is the Twentieth Century.

In the absence of Miss Katherine McMahon, Educational Secretary of the American Association of Hospital Social Workers, who was to have spoken on the *Education of the Hospital Social Worker*, Miss Ida M. Cannon, Chief of the Social Service Department of the Massachusetts General Hospital, spoke on the same subject, as follows:

I feel that this is more or less an accounting to the Hospital Association people on this subject, not especially to the New England Division of the American Hospital Association; for the Association itself has been very definitely concerned with this question for several years. You will remember that in 1919 a special committee was appointed by the American Hospital Association to make a survey of hospital social work in this country. The record showed a very heterogeneous variety of hospital social work, inadequate standards, great differences in interpretation, a good deal of fumbling as to functions, and wide divergence in point of view, convictions and lack of convictions, as to how a worker ought to be trained.

The recommendation following that survey was that a committee should be formed to study the question of the training of the hospital social worker. That committee was composed of hospital administrators, physicians, educators, heads of schools for social workers, superintendents, nurses, and public health nurses. The report was distributed to members of the Association as Bulletin No. 25, in 1923, and included a statement of the function of the hospital social worker, the facilities in existence for the training of hospital social workers in this country, and curriculums of the training courses. The committee made no recommendation, but, having fulfilled its function, asked to be disbanded. The report contained this statement, viz.: "It would seem, however, that some service might be rendered by a committee primarily of representatives from the educational organizations now offering training for hospital social work, which would serve as a medium for intercommunications, so that each organization might learn from the others the results of its experimentation in subject matter and method. The committee believes that training for hospital social work will proceed more rapidly; will be made more self-conscious,

and more helpfully critical, if some such coöperative committee among these educational institutions be in existence.

You see the initiative for the next step was left uncertain. It seemed fitting that our American Association of Hospital Social Workers should take that initiative, which we did. The nucleus of the training committee was made up of persons who had been serving on the American Hospital Association committee, and Miss Antoinette Cannon, of the New York School of Social Work, was the chairman of that committee. It included also Mr. Porter Lee, of the New York School of Social Work; Mr. Cutler, of the Western Reserve Department of Sociology; a physician from New York, a group of hospital social workers, and Miss Mary Jarrett, representing the psychiatric interest. The work of the committee was subdivided for a more careful analysis of the facilities for the medical training of social workers, and for a study of the schools of social work. Miss Katherine McMahon was appointed the Educational Secretary on half time, and has been working in very close touch with the committee and with the institutions that offer training.

As we look back over the development of hospital social service, we find that in the twenty years behind us we have been occupied in finding our place; demonstrating the fact that there was need for the social worker in the medical institution. That, we believe, has now been clearly demonstrated. The American Hospital Association has declared that the modern hospital ought to have a social service department; and we have had so tremendous a demand for hospital workers, from hospitals and medical men, that we no longer have any doubt that the hospital social worker has been recognized as an important factor in the hospital, worthy of serious consideration, and of adequate training for the work we have to do.

We have had a special committee on function studying more intimately what the hospital social workers are doing. It has been felt that there was some indefiniteness about that function, probably due to the fact that most of the things that hospital people are doing,—doctors, nurses, dietitians,—are very definite and clear, and it is obvious what they are doing. The hospital social worker is concerned with psychological problems which the patients present, as well as the problems of the home, and the like,—not so evident in the hospital, yet a very important background of the hospital problem. These things are very vivid to the social worker. A great deal of our work consists in persuading patients to coöperate in carrying out long-time systematic treatment, such as the treatment of diabetes, ear-diaes,—work not so tangible as the service that nurses and dietitians are doing. Nevertheless, that does not free us from thinking more clearly what our work is, and obligating ourselves to

be more definite, so that we may have a well-defined plan of training on the basis of a clear understanding of what we are being trained for.

There are now in this country between five and six hundred social service departments. If we included all those calling themselves such, the number would be much greater than that. So there is plenty of evidence that we must face this thing pretty seriously.

As to what Miss McMahon has been doing: we have not attempted to increase the number of the educational centres interested in this subject. We are responsible only to those schools of social work and various centres that have asked for help in improving their plan of training. Here in Boston, the Simmons School of Social Work for about fifteen years has been training medical social workers. They have their academic work at the school and their practice work in the social agencies in Boston and in the departments of hospital social work, under supervision,—a combination of practice and theory. Smith College has had, since 1919, a summer course of two months, with nine months of practice, and two months again in the summer for college graduates. Their work is primarily training psychiatric social workers, but they also train medical social workers. The New York School of Social Work is somewhat like the Boston School,—theoretical training at the school, and practice in social service departments.

When it was known that an Educational Secretary of the Association had been appointed, requests came for information and conferences, and in response Miss McMahon made a trip through the country. These inquiries came from the Johns Hopkins Medical School, the University of Minnesota, and many places between. She went to them, and discussed with the departments of sociology, the medical school, and the social service departments at the hospitals the question as to what opportunity existed for the training of social workers. Some of them were not quite ready to make any change, but they asked Miss McMahon to come back to them next year. The National Catholic School in Washington, where they are training workers for the Catholic Hospital, and the Washington University at St. Louis have asked very definitely for advice. At Washington University they have confronted us with a new question,—whether, when students are admitted to the school of nursing, some combination of the fundamentals as a background could be given to the two groups in the first two years, and then a variant, after that foundation, for those who choose nursing and for those who choose medical social work. The University of Minnesota has now asked Miss McMahon to visit them again at the end of this year for a conference, with a view to formulating plans, if

possible, for the effective training there of medical social workers.

In every instance we are trying to ascertain what the community offers in the training of social workers,—not medical social workers, but those trained for social work in general. The medical social workers have been a variant from that. The members of the training committee are agreed that the social training is absolutely essential to the hospital social worker; otherwise, we don't feel that she has anything new to contribute. The reason the hospital has needed us is because we have something a little different from that given by other groups working in the hospital; that is the reason why we are there at all, and it is our responsibility to be sure that our workers are well-grounded in this social point of view, and are skilled in social judgment.

There was a time when I felt that the entire social interest of the hospital must centre in the social service department; that we were responsible for all the social problems of the hospital. I have long since abandoned that idea. I realize that an adequate modern hospital must be permeated with the social point of view, and that the psychological problems and the sociological problems cannot be concentrated in the social service department. If they were, the hospital would not be adequate. A social worker should be expert in that field, and should be contributing constantly to the thought of other groups in the hospital out of the fulness of her knowledge and experience. I have been watching the changing programmes of the American Hospital Association. I went over the reports of twenty years, and was much interested to see how year by year more and more stress has been laid on the relations of the hospital to the community. You have been so much concerned with internal problems, problems of equipment and of standardization, that you have not had time to give us much attention. But there has been a constant increase of the social obligations of the hospital, and, as I see it, the hospital social worker's position will become more and more important. To an increasing extent she will share her accumulated experience with the hospital superintendent.

The foundation of the social worker's training is case-work, just as the foundation of medical training is case-work. Physicians are primarily trained in the care of the individual; then if they choose to go into administrative work, they are doing it with a background of case-work knowledge. At present we are looking on hospital social work in that way. We are identifying ourselves primarily with the responsibility of the hospital for the treatment of the individual, allying ourselves with the clinical aspect of treatment. But the application of the knowledge we have gained in that clinical experience to the administrative prob-

lems, it seems to me, it is wholly fitting the social service department should make. In the larger hospitals, where there is so great an accumulation of responsibility on the social side of the administration of the hospital, in many instances, social workers have been appointed to look after these interests of the hospital. In the matter of rate-fixing, for instance, several hospitals have social workers for that work. I should myself hate to see that the chief function of social work in a hospital. There should be, primarily, a thoroughly well-established service to the patient in relation to his medical treatment; yet I strongly feel that we have something to give to the administration in the knowledge of standards of living, wage-scales, drains on the family-budget, responsibilities that budget must meet. Moreover, one of the things we have stood for as hospital social workers ought to be of value to hospital administrators,—that is, our earliest definition of social work: "Social work is dealing with people in adversity, and so is primarily concerned with character." Hospital social workers ought to maintain the point of view of responsibility of the individual who has incurred obligations to the hospital. That attitude we should find in any well-trained social worker, that people should meet their obligations; that they should not have standards so false as to obligate themselves,—even in hospitals, where people are lenient,—without really meaning to meet their obligations. The properly trained social worker will, I believe, be interested in the character of the patient, as well as in his physical well-being.

We are much indebted to the psychiatric social workers for interesting developments. Every one of the training centres so far established has recognized that there ought to be some definite training on the psychiatric side of the individual case, and also in the matter of personality. One of the things to recognize is that it isn't hospital doctors alone who are troubled about obstacles in the patient's home which impair treatment, and it isn't hospital superintendents alone who are troubled about unpaid bills.

Superintendents are being called upon more and more for community responsibility; and hospital social service ought to furnish evidence that you can use, and so speak with authority on some of these questions. Twice in the past year hospital social workers have been called upon for evidence of the need of service for the care of chronic cases of invalidism in Boston. In less than three weeks we accumulated evidence of over seven hundred such patients. Another time the administration was asked for information about cancer. A State department wanted to know whether or not a hospital was needed for cancer patients in Massachusetts; whether it was difficult to secure proper care for patients with cancer; and the hospital social workers were asked to appear before the legis-

lature to present facts on that subject. Hospital superintendents are receiving many demands for such information as that. The people of the community now recognize that the hospital is a very important social institution from the standpoint of facilities for the good of the community; and I believe that hospital social workers should be prepared to yield to hospital administrators information which will make it possible for superintendents to keep in touch with what this great group of patients, coming and going, really mean as evidence of community need.

The hospital has a greater opportunity than any other institution to get a cross-section of the community. We ought, therefore, to be in the hospital more or less as those who are reporting to you, for the social laboratory, evidence upon which you can base action.

DR. HERSEY: I am sure we all feel very grateful to Miss Cannon for coming to us to discuss this very important subject.

MR. WING: From listening to Miss Cannon, I feel that she has touched on one point that is very important,—that is, the relation of the social worker to the administration of the hospital or the dispensary. We have had during the past five or ten years very convincing evidence, I think, of the place which the social worker has, and of the value which she may be to the medical work, particularly if her work is made rather more a part of the administration than it was during the first five or ten years when the department was coming along and turning in that direction. The work of the nurse and the doctor, and even the clerk, in relation to medical service, must be to a certain extent social in its approach, if there is to be a complete and thorough understanding of the patient's needs, and if the results in the care of the patient are going to be as good as they ought to be. I, for one, feel that the opportunity that some institutions are giving for social workers to play an increasing part, is something that we should be very glad of. In addition to that, it seems to me that not only is that an opportunity for the social worker herself, but also that we are more and more tending to place the responsibility for work of a social character on the heads of the social service departments. In other words, there is a certain percentage of the work of the nurse that necessarily requires social sympathy and social understanding; and nurses, working in the hospital or out-patient department cannot be 100% nurses, nor can the clerk or volunteer or any other worker be said to be restricted to 100% to the particular job for which she is employed. Therefore I feel that that part of those workers' time on duty which is social in character should increasingly come under the supervision of the social head. In the same way, I believe that the social service worker in hospitals or dispensaries cannot be doing work 100% social in char-

acter; that there are certain administrative duties, certain things in the dispensary or clinic for which she may assume some responsibility, and in those things she should be responsible to the superintendent of those particular things. That is the only suggestion I have to make at this time. I feel that it is a natural development, and is going on satisfactorily; and it seems to me that the goal is a sort of balance between administration, nursing, and social work, which will make it possible for each of the three types to function to the greatest advantage of the patient and the institution; and forget for the time being the particular field she is working in, because in the end what is for the advantage of the institution or patient will be for the advantage of the particular profession in which that person happens to be working.

An address on "*The Hospital and the Community Chest*" was discussed by Mr. John C. Gardiner, Superintendent of the Springfield Hospital, Springfield, Mass.

THE HOSPITAL AND THE COMMUNITY CHEST

ONE of the most perplexing problems today confronting hospitals the country over is that of finances. In very few institutions does the income balance or even approach the expense account. As a consequence, year after year, we have an operating deficit that must be met in one way or another. The question is, "In what manner." No matter how efficient may be the management of the hospital or how rigid its program of economy, expenses cannot be reduced beyond a certain point if it is to supply the public demands for high-grade service. The most common explanation today of the increased cost of hospital operating is the one generally employed everywhere namely, higher prices resulting from the war. To a certain extent, this is, of course, true. Hospitals perhaps more than any one else have felt and still feel keenly the upward trend of prices. But there are other factors which enter into the situation such as, the standardization programs of the various Hospital organizations, the requirements of the different State Boards for Training Schools, the improved methods of treating patients requiring new and expensive apparatus. Lastly, the public is demanding from the hospital more than ever before. While these various factors have unquestionably brought about improved conditions so that the hospitals generally are giving a better and higher type of service, yet there is no question that they have proportionately increased the operating expenses and added greatly to the executive problem.

In the March 1927 number of *The Modern Hospital* an editorial very aptly illustrates this point. Reference is made to a large and

representative hospital, the name is not given, whose daily per capita cost was \$2.83 in 1913. In January of this year the cost had risen to \$6.65 a day, an increase of 135% in fourteen years. In 1913 the ward charges were \$2.00 a day now they are \$4.00. The private rooms were from \$4.00 to \$8.00 a day now they range from \$6.00 to \$10.00. This is an increase of 100% in the ward charges and of approximately 33% in room charges. Or to express it in another way, the average increase of each class of service is 66½%, an increase in revenue of less than half of the increase in cost.

The Modern Hospital goes on to point out that this is only one half of the story, and here is the point to be emphasized. In 1913, the average stay per patient was fifteen days, while in 1926 it had been cut down to a little less than twelve days. Reducing this situation to an example in simple arithmetic, in 1913 a patient staying fifteen days in an \$8.00 room would have paid \$120.00, while in 1926 he would have paid the same amount for twelve days in a \$10.00 room. The charge for room service per patient has really stood still. This reduction of the average stay of each patient brought about by efficient management enables the hospital to give of its service to a greater number and that things have been worked out to the patients' advantage is evident by the facts that the service given is of a higher type than ever and the death rate is lower today than in 1913. This is the side of the story which is too little emphasized. The hospitals' effort is to supply at no greater cost to each case the highest grade of service and as good if not better results in a shorter time.

How shall this operating deficit, the difference between expense and income be met? For met it must be, if not year by year, then as an accumulation at some future time.

There are briefly it seems to me four ways in which it can be done:

(1) By Taxation. Perhaps the best illustration of this is the State of Pennsylvania. For years past her private charitable institutions have been aided in this manner. No doubt much good has come from this system, especially in the freedom from worry regarding finances, as well as uniformity in methods, accounting and the like. A very elaborate report which had much interesting material in it was sent out by the State last winter. It is well worth reading.

New York City has aided her private charitable institutions for many years past. The system seems to have been employed when the public institutions became inadequate to care for the work required.

Other States likewise have aided or supplemented the work of their private charities to a greater or lesser extent. Still others have left it to the counties, cities or towns. On the other hand, there are States who do no more than

pay at cost or regular ward rates for any patients that the city or town authorities may send to the hospital, repudiating utterly the idea of Government or State aid of any kind to private institutions and offering merely transfer to their own institution as soon as it is possible.

(2) Income from Endowment. This represents the interest on the investments of the hospital, legacies or gifts given specifically for the care of patients who are unable to pay anything or only a part of the cost of their care. In many hospitals the income from this source is too little, the endowments being small. Any hospital that expects and desires its endowment to grow through the years must prove itself at all times worthy, for its every act will be scrutinized and weighed and if it does not please, a will is something easily changed. An adequate endowment is an object and goal which should be eagerly sought after by every hospital. It is in fact its greatest hope.

(3) By legacies, gifts for special purposes or what perhaps might best be designated as private benefactors. These are the gifts that come to the hospital from those specially interested in its work or more often in some particular phase of it. There is no question but that the phenomenal success of some superintendents has been due to the fact that back of them, quiet and unobtrusive, has been some man, woman or family whose pet hobby has been the hospitals which they have managed. These people have willingly and generously contributed, lending the help whenever the need arose. This method appeals to some more than the idea of bequest by will.

(4) Public and Private Subscriptions. This way of financing the hospital deficit is the most interesting to us affecting us as it does most closely.

In the average private hospital, such as is represented here, the annual deficit in dollars and cents in comparison with the total operating cost is not a large one, but when it is judged by the amount of worry and anxiety that it causes the superintendent and the board of trustees, it is a matter for deep thought. Few superintendents when they assume charge of a hospital are engaged with the definite understanding that they are to raise money. It is their duty to manage the plant entrusted to their charge and yet how differently it has often worked out. The superintendent in self defense has had to give his time, thought and attention to raising by personal effort the amount of the hospital deficit. Since the war and as a result largely of the necessity for raising the vast sums of money for Government needs and relief work a change in method has come about. The day of individualistic financial effort for each separate charity in a community would seem to be passing and coöperation in raising funds for the charities as a whole is

taking its place. This fund raised by coöperative effort is known in most places as the Community Chest. There is no doubt but that the fundamental idea back of this method is in thorough harmony with the general trend of business to secure the greatest results possible with the utmost economy of labor and expense. In a word, the aim of the Community Chest Association is to be economical in operation, to eliminate undesirable organizations and to increase the efficiency of those that are doing their best. How different this is from the old state of affairs in which for 2,000 years or more the charities of a community had absolutely no relation to one another. They were established originally, and hospitals are no exceptions, to meet various social and charitable needs, in response to personal ambition or emotion or some religious urge. They had different backgrounds and were supported by people of diverse social standing. They neither knew nor cared for one another. The inevitable result was confusion, duplication of effort, failure to render the service which should be given in efficiency in organizing the collecting of funds and in the general conduct of their work.

At about the same time two different groups of people became aware of the situation and began to consider some means of remedy.

The first of these groups was made up of the contributors. Givers began to consider some way out. They must find protection from the flood of appeals with which they were deluged. The appeal to buy tickets for this was quickly followed by one to advertise in that. Hardly a day would pass without an approach either directly or indirectly. All good causes but one must stop somewhere or become a cause itself.

The second group was made up of the workers in the different organizations. Growing in numbers and in standards of professional service, they were beginning to see that their individual organizations were separately engaged in problems whose basic causes were all more or less the same. Some sort of coöperation was needed if they were to do their work efficiently and effectively. Consequently, the great Government drives for war loans and relief work left the ground ready and prepared for the same scheme to be applied to the financing of the Community Charities.

Perhaps a word at this point as to the organization and operation of the Community Chest is not amiss.

The organization of Community Chests the country over seems to be practically the same. There are, of course variations in details to meet local conditions but the basic scheme is everywhere practically the same. As to operation, budgets are submitted from each participating agency estimating the operating expenses for the ensuing year. The budgets are then gone over by a Budget Committee specially appointed, which may make such modifications as

it sees fit or present the approved budgets to the Chest Committee. The amount to be asked for is then determined and the drive organized.

Let us take up briefly some of the arguments that are most frequently heard both for and against the idea of the Community Chest in financing the hospital's deficit. The most common arguments as to the advantages of the Community Chest are:

(1) Freedom from financial worry. As the trustees and the superintendent do not have to worry about finances, they are free to devote their time to other matters; the trustees to the policy of the hospital and the superintendent to the executive duties. Theoretically this is very beautiful, and no doubt it does in actual experience sometimes work out this way. If, however, the chest fails to raise the amount asked for, the different agencies receive only a pro rata share. As their participation in the chest prohibits their going out for a drive of their own, the deficit is carried over either in the form of unpaid bills or as a loan into the next year. If this process is repeated for several years it means an accumulated deficit which is always bad business. It is no different, however, from the plan followed by many hospitals year after year in accumulating a deficit and then when it gets too big wiping it out by means of a drive.

(2) Community Education. By this is meant not so much the idea of educating the community to the value of the hospital but rather the education of the community as a whole to the idea of community philanthropy. As a rule the hospitals are inclined to keep to themselves but is it not equally true, that many other organizations have the same ideas back of them? Why should they not carry on with the patient after his discharge from the hospital in types of service that the hospital cannot give for various reasons. Indeed, this service if wisely and intelligently given has frequently prevented a speedy return of the patient to the hospital.

The other side of this picture is the effect upon the community as a whole. Time and again, when the spirit of community philanthropy has been developed in a community, the number of private givers has been greatly increased in number. Instead of a few hundred or a thousand people bearing all of the philanthropic burden the number has been increased to thousands and even hundreds of thousands. No philanthropic organization that can awaken the community's consciousness to the needs of charity and welfare work can be dismissed without careful consideration.

(3) The Spirit of Coöperation. By this is meant the elimination of over-lapping and coördination of work. There is no doubt but that if a spirit of friendly coöperation exists, it results in higher professional efficiency.

The other side of this picture is the financial effect upon the public. Instead of a constant

deluge of appeals coming throughout the year, one appeal only is made and that to everybody. You may say that this is an ideal and perhaps it is. The community in which you and I live may not be ready. Nevertheless, it is an ideal that will be realized when human nature has grown big enough to properly grasp it in all of its phases.

A fine example of this same spirit of coöperation is seen in the purchasing bureau for the hospitals in the Community Chest of Cleveland. To an outsider, it looks like an excellent arrangement which could be copied to great advantage in other of the larger cities. There is no doubt but that such an arrangement is thoroughly in harmony with sound business. Consequently, when men of affairs see the charities of a city conducted in a manner like this, the ease to them is pretty nearly proved.

In other cities, there have been common agencies for the collection of accounts and in nearly all a centralized bureau for the gathering and dissemination of information known as a confidential exchange. To the social workers of the hospital, this is especially valuable for all of us are familiar with weird tales and the families who would receive aid from more than one source.

There are many other arguments for the Community Chest but I cite the foregoing either from my own experience or from the experience of others with whom I have discussed the question. In any scheme of this sort there are bound to be objections and disadvantages. Let us see briefly what are the commonest.

(1) The allotment from the Chest is not large enough. This has already been touched upon indirectly in the failure of the Chest to raise the amount desired and the consequent pro rating of the amount realized. It is quite true that hospitals do not always receive the amount that they feel they need and should have in order to carry on their work. It may be that the total asked for from all of the agencies, is more than the community can give. It may be that the financial showing of the hospital does not entitle it to more. Whatever the reason, there exists a very definite feeling on the part of the hospitals that their allotments are not sufficient for their needs.

(2) Loss of Personal Touch. The individual institution is subordinated to the whole, and as a result there is a lack of interest on the part of the citizens in the hospitals and in their needs. Consequently the hospital loses its individuality because the contributors are interested in the pure cold-blooded proposition of the larger body and forget the smaller component parts of that body. There is no question to my mind but that this is a very definite objection and that the situation has its dangers.

(3) There is no definite means for financing capital expenditures through the Community Chest. The Community Chest so far as it has

been developed has had to do only with operating expenses. Capital expenditures for new buildings etc., have had to be financed in other ways or have had to be foregone altogether. It may be that in the future, some method will be worked out.

(4) Improper Distribution of Funds. That is that one hospital receives a larger proportion of money as its allotment from the chest than its services would seem to warrant. Of course, it goes without saying that if this criticism is warranted or justified in any way something is wrong. It but serves to show the necessity of absolute fairness and justice in the allotment of the funds and public recognition of that fairness and justice.

(5) That large givers under this system are able to cut down their contributions when giving to charity as a whole. Consequently the philanthropic burden of the community is being carried by the poorer and middle classes, allowing the better off to escape with comparatively light gifts. In one city in N. w York this actually happened. The management of the Community Chest quickly solved this problem by publishing the names of all contributors.

(6) By creating a feeling of ownership. That is by making demands upon the hospital by reason of contributing to the Chest. It would seem that this might be a good thing in some ways. It may be simply the desire to see the hospital grow in a normal and healthy manner. In other words, the expression of a perfectly legitimate civic pride. More often perhaps it takes another expression, demanding free treatment for some member of one's family, or the purchase of goods from a local merchant when such patronage does not work to the best advantage of the hospital.

(7) The sacrifice of some popular hospital. There is no doubt that in some instances hospitals have sacrificed themselves by going into the Chest, while in other places they have improved their condition. It would seem that local conditions control this situation to a large extent. There is no doubt though in my mind that a very prevalent idea exists among the hospitals that they would do as well in their financing outside the Chest as in it. They are probably correct in this assumption, other things being equal because the hospital has on account of the nature of its work an appeal that many other charitable and welfare organizations lack.

DR. HOWLAND: This very important subject is, I know, of interest to us all. As a matter of curiosity, I should like to know how many people here are associated with a hospital which receives aid from a community chest.

ANSWER: (By show of hands) six.

DR. HOWLAND: We are fortunate in having with us this morning a gentleman from Mel-

bourne, Australia: Mr. Wilmer, will you tell us what they do in Australia?

MR. WILMER: Mr. Chairman, Ladies and Gentlemen: I came here two and a half months ago on a holiday, with a letter of introduction from the President of our hospital to hospital managers in America; but I didn't believe I was going to see any hospital from the best place to see it, that is, from the inside, as soon as I reached here. I spent a week in the Faulkner Hospital, and I shall go back to Australia with great gratitude for what they did for me there. I am glad to be able to say that I have seen something from the inside, as well as from the outside.

The hospital of whose committee I am a member is the Melbourne Hospital, which has nominally 360 beds, yet we have a daily average of nearly 400 patients. It is a general hospital, and free to the public. We have no paying beds. The only source of revenue we have from patients is what they voluntarily give us. We naturally have to make some inquiry before they come in as to what their means are. We are a home for the sick and injured poor of Melbourne. We receive a grant from the Governor of the State, a grant from the Council of the City of Melbourne, and we have, in addition to that, our subscription collectors who go around to various people and get subscriptions. We collect no money for hospital fees, and we have to go out for voluntary contributions, in addition to our State and Municipal grants. We have adopted what might be called some devious methods of extracting a shilling or half a crown from the pockets of people, and one or two of those methods might interest you. We have found that an increasing number of people want to look out for hospitals. We give each patient the right to have so many visitors, and we decided to charge six pence (that is twelve cents of your money) for each person who came in to visit a patient; and we have succeeded in getting between four and five thousand dollars a year. This has come to be regarded as a source of revenue. It is only a small fee, and it keeps out the ultra-curious, who come to gloat over the sufferings of people. There has been no objection to it, and the practice has come to stay.

Another method we have arrived at of getting funds is the Melbourne Hospital Birthday League, of which I have the honor to be President. On your birthday you expect your friend to give you a birthday present. We say, on your birthday you should give the hospital a present. We send them a birthday card, and incidentally inform them that it costs money to keep the hospital going. That League has been established for four years, and has contributed to the Melbourne Hospital each year \$5,000. One item of interest is the "Hospital Endowment." A man makes a subscription in memory of his wife, that goes into the endow-

ment fund, and the interest is credited on her birthday; so that every birthday is recognized, and the gift recorded. A friend of mine had a friend named Whittier who, we knew, was born on November 11, so when we wanted to raise \$20,000, we wrote to Mr. Whittier, suggesting that he become a member of the Endowment League. Mr. Whittier replied in a short note: "I am stung! Here's your twenty-five pounds!" Several people have contributed to that fund, who wanted to perpetuate the name of a daughter or father or mother who had died. That's rather a beautiful idea. That fund is gradually growing and the endowment side is of importance. That money invested brings us from five and a half to six per cent.

In order to interest the young people, the radio is used every evening at six o'clock to furnish entertainment for the children, bedtime stories, etc.; and I get a letter every once in a while from some girl or boy, saying, "I am happy to return you half a crown for the Melbourne Hospital." There are now 6,000 children contributing half a crown, and I believe they will continue to subscribe, and will increase their subscriptions.

Those are just one or two of our devious means and methods of exploiting a little money from the pockets of the people.

I have been very much interested in that address on the Community Chest. In Sidney they have a similar organization. In Melbourne we call it the Lord Mayor's Fund. This charity fund is managed and controlled by a governing board, and that board inspects the accounts of every charitable institution. It will come down like a thousand bricks on a hospital which is allowing expenses to go too high, a hospital in which there is waste. There are men on the board who are experts in hospital management, and they point out how they can reduce expenditures. They will refuse the Government grant to any institution that will not come into line, and all charitable appeals in Melbourne must have the sanction of that board. My hospital wanted to appeal to the public for 50,000 pounds. We have an accumulated deficit that we want to wipe out. So we have appealed to the Charities Board for permission to ask the public for 50,000 pounds. They said, "What do you want it for?" and we told them. They said, "All right; you can have the field for July and August, and in those two months we will not allow any other public appeal to be made." That Charities Board is of very great value, because it is a Government body, and it has to do with the Government grant to various hospitals in capital cities and other parts of the State. Then the Lord Mayor's Fund has organized a Hospital Saturday and Sunday Fund. We have a Sunday collection for the hospitals in all the churches, and on Sunday afternoon a band concert in the parks. We are not allowed to charge for any entertainment on Sun-

days. We have no theatres or movies at all on Sunday. In order to take a collection on Sunday afternoon we have to get permission. One particular Sunday it happened to be wet, and people didn't want to go out, and the hospital fund suffered. John Swanson thought it would be advisable to have the Lord Mayor's Fund organized; to have collections thoroughly organized, regular contributions from men in our stores and factories; so gradually we have worked into the various factories or department stores and the like, and we shall have a regular collection of so much a week from each of those boys, and I think this will give us a considerable amount of money. That hospital Saturday and Sunday fund brings in about 40,000 pounds at this moment. But all through the year the fund is open, and the secretary is working around through the various organizations and trying to increase the amount; and it has the effect of coördinating a lot of effort that frequently over-lapped. It does not, however, relieve each hospital from the responsibility of looking after its own affairs. That Lord Mayor's Fund has increased community giving, and has given the community a sense that it must keep the hospitals supplied.

The Lord Mayor's Fund is distributed twice a year, and distributed on the basis of the Charity Board's report. The Charity Board has all the figures; and it is not necessary to say that the hospital that asks for the most ought to get it, or that the hospital that asks for the most is the worst hospital in the lot. There is no complaining about the allocation. We sometimes complain that we don't get as much as we expected. But it works very well. It has certainly come to stay; it is growing each year. It is on the lines of your community chest.

I am glad to have met you New England people, and I am sorry to go away. I had heard that Boston was cold, and the people inhospitable, but it has seemed to me very warm and friendly. I couldn't have believed that a community could be so warm and friendly as this has been to me.

DR. HOWLAND: I feel that Mr. Wilmer has made a definite contribution to this meeting. I was much interested in his account of making the visitors pay a small sum. You know we have a daily average of about 260 patients, and each one has about ten visitors. If we could get 12½ cents from them as they came through the door, we could declare a dividend at the end of the year.

DR. HENRY POLLOCK, Superintendent of the Massachusetts Homeopathic Hospital, Boston, Mass., who was to have presented a paper on "*Uniform Distribution of Charges*," was unable to attend the meeting, and sent his assistant, Miss Rebecca Pike, to speak in his stead.

Referring to charts, Miss Pike made some remarks, and answered some questions, in part as follows:

In 1923 Dr. Pollock and Miss — decided they would like to instigate a system of charges which would be fair to the hospital and the patient; so they made out a budget system which was based on the weekly savings of the patient, the cost of living for his family, and any additional income. This system Dr. Pollock explained to you in a paper which he read before you in May, 1924. At the present time we use this budget system in a little different form. From the spring of 1923 to 1926 the original system was used by the admission officers in the admission of patients. In 1926 we felt that we could increase collections for the hospital, without imposing any undue hardship on the patient, by making a higher rate for the patient, requiring him to pay a certain percentage of that while in the hospital, and the balance in weekly payments beginning four weeks after his discharge from the hospital.

To explain more fully, I will take a definite case: A patient is coming into the hospital for an appendectomy, and his stay in the hospital will be approximately two weeks. This patient is interviewed by the admitting officer. (I am speaking now of a ward patient.) This financial history consists of finding out where the patient is employed, what his income is, whether he is married, and if so, how many children, whether the children are working, and what savings they have, the rent paid, or whether they own their house, and whether they are paying on a mortgage; whether the income has entirely ceased while the patient is in the hospital; whether he gets a sick benefit, or money from some insurance. The patient which I have in mind was earning \$38.50; he had a wife and two living children, both minors, not working. The savings were about \$60. As I said before, he was coming in for an appendectomy, and the probable duration of his stay in the hospital would be two weeks. The admission officer then looks down this scale (referring to chart), and finds that, as he is earning \$38.50, he comes between class 36 and 40, and his savings come between 54 and 67. He is advised by the admitting officer that his rate will be \$14 each week; he is also told that he is supposed to pay the hospital \$10 each week while in the hospital, if he is there two weeks, and the balance of \$8 in weekly payments beginning approximately four weeks from his discharge from the hospital. However, if this same patient was to have some additional treatment, for which the approximate duration would be a little different, his rate would be \$14 a week for three weeks, with a payment of \$10 a week for the first two weeks, while for the third week he would not pay anything while he was in the hospital, leaving a balance of \$22 to be paid to us in weekly payments, beginning four weeks after discharge from the hospital. Under the system as first planned, we should ordinarily charge a man a flat rate of \$10 a week during

his stay in the hospital. At present we are getting more from the patient, but we feel that by allowing him extra time in which to pay, we are not causing him any undue hardship.

I should like to say this about the financial histories we get from the patients: In almost no instance has the patient objected to giving information. These histories are turned in to my office. In as many instances as possible I telephone the employers of these people. In the majority of instances they tell the absolute truth; sometimes they overstate their salary as much as \$5 or \$10.

If this patient came in to the hospital, and his wife was earning money, we should naturally make a higher rate. Then we should have to ascertain whether the children were boarded out, and what was being paid for their board. If her earnings have to go for board of the children, we make a lower rate than if they are placed with relatives, because we find that relatives seldom take money from another relative. If the wife is sick, and the husband is working, we take into consideration whether the children are boarded out or whether they are with relatives. The reason we give four weeks after the patient leaves the hospital before he begins to make payments is that it generally requires that length of time before they are able to earn money again.

In the month of January this year I interviewed 50 persons who were admitted to the hospital under this system. Of that 50 who were supposed to begin payments March first on balances due, 24 have paid in full, 15 have made partial payments, and 11 have paid nothing.

In the month of February I interviewed 40 persons; of that 40, during the month of April, 17 paid up in full, 11 made partial payments, and 12 nothing at all. Between 62 2/3% and 75% do pay the hospital later.

Since we instigated this budget system in 1923 the hospital collections have increased \$8,000 a year, and Dr. Pollock thinks it is due to this method. Last year we had 4,115 part-paying patients, and at the present time there are only 154 accounts still unpaid. We are collecting about 96% from paying and part-paying patients.

A MEMBER: Do you feel that the hospital gets more under this system than under the old system of flat charges?

ANSWER: Yes. Under our flat rate system we charged \$21 a week for a twelve-bed ward, and so much for a five-bed ward. If we charged at least \$21, people often felt that the rate was prohibitive, and would pay the first week, or perhaps the first two weeks, but they wouldn't pay the balance due after they went out.

A MEMBER: How about X-ray or operating-room charges?

ANSWER: Unless they are paying \$21 a week, we do not charge for the operating-room. If

they are paying \$21 a week, we feel that they can afford to pay five or ten dollars extra.

MR. RICHARDS: I wonder if you could work out on that scale the fair charge in the case of a child patient, where the father was getting \$50 a week, and the family consisted of the man and his wife and seven children; he said he had no savings.

ANSWER: The system doesn't apply. Where the man was earning \$50, and had seven children, and no savings, we should probably charge for the child about \$7 a week. I can't tell exactly, but that is approximately what we should charge.

DR. HERSEY: Have you a printed form of these charts?

MISS PIKE: Yes. We have charts for determining the rate for single persons, and up to a family with six children.

DR. HERSEY: If the patient pays a flat rate of \$21, then this system doesn't apply?

MISS PIKE: If the patient is referred by some doctor and pays the full rate of \$21, we take the patient's word as to his financial condition, and in the majority of cases these people pay up. We demand one week in advance, except in cases of persons whose standing is well known.

MR. WHITCHER: Referring to the round table discussion regarding collections from private patients, can this woman give us an idea as to whether the Homeopathic Hospital collects 100% from private patients?

MISS PIKE: No; there is a certain percentage of private patients from which we cannot collect. They haven't money, or they won't pay. We figure a certain percentage of loss.

A MEMBER: How do you handle such accounts?

MISS PIKE: When patients go out without paying we send three statements a month, the 1st, 15th, and 25th. At the end of one and one-half months we turn it over to the collector. They all go through his office.

A paper on the subject of "*Increasing Hospital Collections*" was then read by Mr. J. J. Weber, Superintendent of Grace Hospital, New Haven, Connecticut.

INCREASING HOSPITAL COLLECTIONS

NATURALLY the interest of hospital executives in the subject of "*Increasing Hospital Collections*" is in direct ratio to the percentage of the hospital's expenses that must be met by earnings from patients. The subject is of relatively lesser interest to hospitals that are blessed with large endowments and that do a relatively large percentage of charitable work, and that do not have extensive Private Pavilion facilities. The subject is of greater interest to hospitals that have a small endowment and that have a goodly percentage of semi-private and private room facilities.

Grace Hospital of New Haven, Conn., of which I am the executive, falls in the latter class of institutions, as its annual income yield from invested funds is only approximately \$11,000. Our operating expenses last year were \$367,718.00 and our corporation expenses, due to an inordinately high bond interest charge, were \$69,506.00, making a total of \$437,224.00. Approximately 78% of this expense, or \$338,969.00, was paid by earnings from patients treated both in our Private Pavilion and on the wards. From these figures, it must be evident to all that the prompt and effective collection of patients' accounts is a matter of outstanding interest.

Just as in any line of business, if sales are forced or improper representations relative to merchandise or service are made collections are harder to make, so we feel that it is a matter of the first importance to inform our patients or responsible relatives or friends as explicitly as possible just what service we render or are likely to be called upon to render and what the expense for this service will be.

As we, in common with most hospitals, have an elaborate schedule of Daily Rates and Special Charges, it has seemed to us that we could place this information most effectively in the hands of those concerned through the issue of a six-page pamphlet in which services and special charges are suitably arranged for ready reference. In instances where reservations are made in advance as is invariably done in maternity cases, a copy of this leaflet is mailed to the patients or the person who is to be responsible for the patients' bills. In other instances, this leaflet is placed in the hands of the individual responsible at the time the patient is admitted to the hospital. In the latter instance, the message of the leaflet is usually supplemented by a word or two of explanation as to the charges and other requirements for advance payment by the admitting officer. At the bottom of the pamphlet's first page, attention is called to the fact that the hospital requires payment for one week's hospital service in advance, that accounts are thereafter to be paid weekly in advance upon presentation of the bill and that any balances are to be settled in full on discharge of the patient. Attention furthermore is called to the fact that overpayments will be refunded promptly.

Not only does the matter of informing our patients clearly at the very outset as to the hospital's charges have a definite bearing on collections, but we feel that the quality of the service which we render also has a very definite influence. We try as far as may be not to do anything to give our patients an opportunity to plead poor or inadequate service as an excuse for nonpayment of their bills. Instances do occur in our institution where, through the negligence or ignorance of some underling, the

patient is given cause for just complaint and to that degree makes it harder for the hospital to press the payment of its bill with the force which properly goes with the consciousness of work well done.

A considerable amount of preparation for the easy and prompt collection of bills can be made at the time the patient is admitted to the hospital. Information that may prove helpful in collecting the account later can be obtained at this time far more readily than at any other. The exact name and address of the individual responsible for the payment of the patient's bill and, if possible, his telephone number, as well as the name and address of his employer, should be secured at this time. Whether the patient is properly a compensation case or public liability case should be definitely established at the time of the patient's admission or as soon thereafter as possible. In compensation cases the patient's employer and the latter's insurance carrier should be ascertained at once. In public liability cases, the full name and address of the individual responsible for the accident, whether or not he is insured and, if insured, in what company. In some instances, it is desired to ascertain tactfully whether the individual, who signifies a willingness to meet the patient's bill, banks his savings.

Just as in business, the interval allowed in the form of credit extended may dull the desire to pay, our experience seems to indicate that the greater the time elapsed after the patient leaves the hospital, the greater is his sense of responsibility for the payment of his hospital bill dulled. Consequently, we have found it eminently satisfactory and profitable in more ways than one to have an assistant to the superintendent, who devotes practically all of her time to the collection of patients' accounts before the patient is discharged from the hospital. Naturally, her constant contact with the patients and their relatives and friends places her in a strategic position to receive and adjust complaints and build up good will for the institution. The ragged edges of her time are often taken up with the preparation of follow-up letters to patients who for one reason or another have bills still remaining unpaid, either in part or in full. Occupied with other and often more responsible duties, the superintendent finds her a valuable adjunct.

As already indicated, we ask payment for one week's hospital service in advance. Not knowing what special charges are likely to be incurred during the week, we have not found it expedient to ask for an advance payment of more than the fixed charge of hospital service. If this advance payment is not made within 48 to 72 hours, the assistant to the superintendent brings our policy of advance payment to the attention of the individual responsible in as tactful, yet forceful, manner as possible, with the result that in many instances payment for the

first week's hospital services is made before the end of the first week's stay.

At the end of each week's stay, with the exception of maternity patients who, on an average do not remain with us quite two weeks, we render a bill covering a two weeks' stay. Needless to say, most of the special charges incurred by patients, such as charges for operating room, X-ray pictures, cystoscopic examinations, laboratory tests, etc., are incurred during the first week's stay of the patient and these, of course, are all included in the itemized bill submitted at the end of the week. Any advance payments made are, of course, included as credits. As already indicated, provision is made for the payment of refunds.

Again at this point, if the patient's bill is not paid within 48 to 72 hours after being submitted, the assistant to the superintendent gets in touch with the individual responsible for the payment and reminds him perhaps, under these circumstances justifiable, even forcefully, of his obligation.

As an essential part of our scheme, our ward supervisors are instructed to notify the main office directly they know a patient has been discharged by his physician. This gives the main office an opportunity to make out the patient's bill in advance of his departure in the event that the patient or special nurse has not already requested it.

The hospital expects balances to be settled in full upon the discharge of the patient or if, for any legitimate reason, a bill cannot be paid in full at that time, necessary and desirable adjustments are made and in many instances the person responsible for the bill is asked to sign a note stipulating exactly when he will pay. This note is made out in duplicate. We retain the original copy and give the carbon copy to the maker for reference. The form which we adopted after careful consideration reads as follows:—

I, JOHN JONES, being responsible to Grace Hospital for \$90.00 on account of hospital care and treatment of MARY JONES, hereby agree and promise to make payments as follows: \$90.00 in full payment July 1st,

or

monthly
\$10.00 weekly until paid in full.

Reference.....

Signature.....

Witness.....

The note contains places for the signature of the maker, a witness and for the notation of a reference.

The Rochester General Hospital of Rochester, N. Y., has incorporated a step in its scheme of collection which we have not as yet adopted. Its plan of discharge supplements its plan of admission. A patient may not, upon discharge, leave any floor of the hospital until the supervisor of the floor receives a notification

from the cashier. This notification is usually in writing and reads:—

"To the Head Nurse MARY SMITH:—

Final arrangements have been made in the business office for the discharge of MR. BROWN.

Signed.....

Cashier

They feel that their chance of getting the bill paid in full if the patient is kept on the floor is greater than on their former plan of bringing the patient to the cashier.

If there is any question in our mind as to the ability of a given patient to hold to his promise to pay, we obtain, within 24 hours, a credit report from the Credit Bureau of our local Chamber of Commerce, with whom we have a contract under which for the payment of \$100.00 we are entitled to receive 100 written credit reports or 150 credit reports transferred over the telephone. These reports serve a valuable purpose in guiding us in our collection efforts.

If a patient leaves the hospital without paying his bill, an itemized copy of which is submitted to him upon his discharge, a statement is sent to him at the expiration of ten days after discharge. Each day a list of the days' discharges are dated ten days in advance and these lists are issued by one of the clerks in the main office to guide her in sending out statements.

If, within twenty days from the time the statement is sent out, we do not receive a check in full or partial payment of the account or some explanation of why payment is delayed, accompanied by some promise of future settlement, we begin a series of letters which are sent out from intervals of ten days to two weeks. These letters in the order of their sending read as follows:— (Read Letters, No. 1, No. 2 and No. 3.) Not infrequently one or another of these letters will bring some form of response, but if all three are ignored the account is placed in the hands of a collection agency about a month after the third letter of the series has been mailed. The accounts submitted to the collection agency go to them in the form of a list giving name and address of the patient, person responsible for the payment of the bill with his address, dates of admission and discharge, unpaid balance, amount, if any, which has been paid indicated in red, and any remarks. In the remarks column any data which we have collected that may be helpful to the collection agency is entered. This list is accompanied by all of the correspondence which we have had covering the accounts. For convenient reference, the names on each of these lists are numbered serially and each list bears a code letter indicating the month in which it is compiled.

To aid us in keeping track of our collection efforts, we have devised patients' ledger cards which are filed under visible index system and which enable us to make a visible record of our collection effort. This patient's ledger sheet contains a carbon copy of the patient's admis-

sion data which is often used for reference in our collection effort.

As an illustration of the results which we have been able to achieve, the following schedule of accounts receivable as of May 1, 1927 for the past six months will be of interest:—

	Earned Income	Unpaid Bal.	Percent Av.
November	22942.78	699.18	.0304
December	25187.17	2908.50	.1154
January	28170.11	2174.11	.0771
February	27779.11	2509.33	.0903
March	31210.62	4943.79	.1184
April	32000.00	5282.22	.17

The efficiency of any plan of collection depends very largely upon the intelligence of the person who is carrying it out. Certain exceptions to the rules must of necessity be made from time to time and only a person of judgment with a fine sense of relative values can be entrusted with the responsibility of determining when exceptions may properly be made. We do not, of course, ask physicians or members of their families for advance payments nor do we ask it of well-known persons of established financial standing in the community.

DISCUSSION

MR. WHITCHER: I should like to ask Mr. Weber if the statement of earnings is the book value of ward rate, or what the patient says he can pay?

MR. WEBER: We carry the actual ward rate plus extras. Outside physicians and their families get 10% discount.

A MEMBER: Do you make charges for training school students?

MR. WEBER: O, No. We have a definite schedule worked out for free service given our employees, based on length of time employed.

New business was called for by the chairman. None was presented.

Dr. Stone then reported for the nominating committee nominations as follows:

President—Dr. T. S. Brown, Mary Fletcher Hospital, Burlington, Vermont.

Vice-President—Dr. Charles H. Young, Superintendent of Maine General Hospital, Maine.

Treasurer—Dr. Leslie H. Wright, Peter Bent Brigham Hospital, Boston, Mass.

Trustee—Miss Frances Ladd, Faulkner Hospital, Jamaica Plain.

By vote, the Secretary was directed to cast one ballot for the election of the persons named by the nominating committee. The Secretary announced that the vote was cast, and the officers were declared elected.

The retiring President, Dr. Hershey, introduced the new President, Dr. Brown, who said:

I appreciate very much this honor. I live way off in a border town, far away from the centre of hospitals; and I think some one here could serve you very much better than I. How-

ever, I will do the best I can, with my coat off. I understand the program is now completed, and the next thing is to adjourn.

An invitation was given to inspect new construction at the Massachusetts General Hospital,

the Palmer Memorial Hospital, the Faulkner Hospital, the Peter Bent Brigham Hospital and the Boston City Hospital. A vote of thanks was given the retiring officers.

VOTED to adjourn, 1 p. m.

MEDICAL PROGRESS

PROGRESS IN OBSTETRICS

BY JOHN ROCK, M.D.

PROGRESS is change which brings us nearer to the truth; but mere novelty may not do this. To the reviewer, then, trying to recognize progress in obstetrics amongst the mass of published work, there is solace in Herbert Spencer's dictum: "In every error there is a soul of truth". By tedious consideration he tries to separate the good from the evil. Should he err, and offer as a stepping stone for progress what is really a slippery slide backward, he comforts himself, with the words of the French patriot, the hero and Thomistic philosopher of Louvain, Desiré Cardinal Mercier, who taught, "the general law of progress is that successive generations draw nearer, through fragmentary inductions and often by reason of more than one mistake, to that which shall finally constitute a step in advance for thought".

DIAGNOSIS OF PREGNANCY

Accepting the demonstration of Frank and Nothmann, that alimentary glycosuria is more easily induced during the first few months of pregnancy in women of normal carbohydrate metabolism, than in such who are not pregnant, Hirst and Long¹ have been working for several years on a simplified modification of the originators' technique. They give to a fasting patient 7.5 gm. of table sugar for every 10 pounds of body weight, with a maximum of 150 gm., and then test, by Fehling's qualitative method, 3 successive specimens of urine obtained at hourly intervals. "Of 150 patients subjected to the test, 88 were pregnant. Of those who were pregnant 83 (94%) reacted positively. Of the non-pregnant group, 57 (92%) reacted negatively. Despite the percentage of error, the authors believe that the procedure described is the most accurate laboratory method of diagnosing early pregnancy before the gynecological signs appear.

The test as described is quite the simplest method so far suggested. It is interesting to consider it in the light of the findings of Stander at Johns Hopkins on the blood-sugar in eclampsia, to which I shall refer later. There is no doubt that the growing ovum induces changes in the maternal carbohydrate metabolism. This becomes an important consideration in arranging prenatal diets.

DIET IN PREGNANCY

Empirically, high protein intake has been considered undesirable from the renal standpoint; and certainly the interdiction of "meat, fish and eggs" has seemed to reduce the incidence or severity of pre-eclampsia. But now comes Friedman² to warn against an undue gain in weight during pregnancy. In his practice, if more than two pounds are gained during the second month after the patient's first visit, she is "put on diet eliminating all sweets, potato, macaroni, and soups". She reports once a week thereafter, and further restrictions, presumably of carbohydrates, are made as indicated by weight. His results are pleasing. There is, he says, less gastric distress; shortening of the first stage of labor from 10 hours in undieted primiparae to 6 hours in those with restricted diets; and average reduction of 6 ounces in the weights of babies of primiparae. In multiparae the first stage is shortened from an average of 6¾ hours to 5½ hours; and the babies' weights are reduced from 8 pounds to about 7 pounds. In his series all babies were healthy. The disadvantages he mentions must be considered. There is "lessened vitality or 'pep' of patients", and the possibility of "increased anaemia". Kerwin³, of St. Louis, gives a table of average gains: from the twelfth week to the twenty-fourth week, 8½ pounds; from the twenty-fourth week to the end of pregnancy, 7½ pounds; from the twelfth week to the end, 16½ pounds. He concludes, like Friedman, that obesity is dangerous and should be controlled in the interest of both mother and child. DeLee⁴, in commenting on this article in his annual review says that unless the obesity is marked he does not prescribe a special diet or a great amount of exercise. The necessity of carbohydrates will be suggested below in the discussion of the toxemias of pregnancy.

The source of the excessive gain in weight should be borne in mind when arranging restricted diet lists. Hydramnios is not to be treated by starving the mother, nor can edema be disregarded as an indication of defective metabolism which is probably not best treated by curtailing the carbohydrate intake. On the other hand maternal adiposity can legitimately be controlled, and probably should be, but only

when due respect is also paid the requirements of a ration balanced for pregnancy. A copious supply of vitamins must be insured, as well as an adequate supply of inorganic salts. Donald Macomber⁵ by experiments with rats has rationalized much of the heritage of experience along this line. He says of calcium, there must be an adequate source "in the diet of the pregnant and nursing woman if the functions are to be carried out normally and with a minimum of such disturbances as caries, stillbirths and failures of lactation". This means that milk or calcium lactate should be included in the diet. The demonstrations of Minot and Murphy⁶ should be respected and liver recommended as a source of vitamin and iron.

COMPLICATIONS OF PREGNANCY

Anemia. Anemia of mild degree is not uncommon in pregnancy; and if marked it is dangerous. Krell⁷ of New York, after discussing two fatal cases, emphasizes the necessity of careful blood examination in any case of marked pallor, with or without hemorrhage or sepsis.

Thyroid Dysfunction. Davis⁸ gives tables and sets standards for the detection of such abnormality and says, "if a woman with a normal thyroid has sufficient iodine during the course of a normal pregnancy, her basal metabolic rate will remain within normal limit, although it may show a slight increase toward the end of pregnancy". He also adds, what should be kept in mind as we later consider hyperemesis gravidarum: "many of the so-called neurotics of the past probably had a disturbance of thyroid function". Regarding palpable changes in the thyroid gland, Hinton⁹ writes: "Colloid goitre is the one type most frequently encountered during pregnancy, and it is curable by administering iodine or thyroid extract". "The condition can be cured medically and the sooner the treatment is begun the better the prognosis. Thyroid extract, $\frac{1}{2}$ gr., three times daily for three weeks out of each month should be tried. If this is inadequate the dosage can be increased to as high as 6 to 9 grains daily. These patients should not be put on continuous medication, as a hyperthyroidism may be produced from the medicine. Thyroid extract seems preferable to iodine, although the principle of the two is the same." Mussey, Plummer, and Boothby¹⁰ after considering thirty-two cases of pregnancy and true hyperthyroidism in the Mayo Clinic write that association of these two conditions is rare. "It is noteworthy that serious additional complications were not more frequent than is usual in either condition alone, and that therapeutic abortion was not necessary. Finally, both the course of pregnancy and the maternal and fetal mortality were not appreciably affected as the result of the syndrome due to exophthalmic goitre or to adenomatous goitre with hyperthyroidism, nor, on the other

hand, did the pregnancy render the control of these two diseases noticeably more difficult."

Hyperemesis Gravidarum. To supplant the old-fashioned clinical methods of differentiating between the benign or neurotic vomiting, and the dangerous toxic vomiting of early pregnancy, Waters¹¹ gives as the peculiar urinary and blood findings in true vomiting of pregnancy: "diminution in the alkali reserve and lowering of the CO₂ combining power, and, rarely, lowered blood sugar". "The urinary changes, other than those due to dehydration, are an increased ammonia coefficient, decreased urea output, and the presence of the ketone bodies". With commendable charity, he believes that "irrespective of the initial etiologic agent, . . . the patient vomits in spite of herself". He adds that she stops vomiting when the ketonuria disappears. To accomplish this his treatment is logical: 1000 cc. of 10% Glucose with 20 units of insulin, intravenously, every 24 hours until vomiting and ketonuria disappear. The fluid intake is kept at a minimum of 3500 cc. in 24 hours. This is given by parenteral instillation or subcutaneous, if necessary. The upper colon is irrigated once or twice a day. Sedatives are given if necessary for fatigue, and adrenalin exhibited for low blood pressure. Miller¹² and King¹³ in the Charity Hospital of New Orleans apply many of the same principles. They use a 5% solution of glucose, with one unit of insulin for each 3 gm. instead of each 5 gm. of glucose, until 10 to 15 units have been given. Harding and VanWyck¹⁴ of Toronto, also believe that carbohydrate deficiency or glycogen deficiency in the liver is the causal factor in toxic vomiting. They give mild cases small meals, mostly of carbohydrates. Others get daily intravenous and rectal instillations. Such prospects as the above men hold forth are very pleasing, for the patient with severe toxic vomiting is in a serious condition. Experience so far has taught that if the vomiting persists, the liver is ruined and recovery impossible. The above treatment, then, to be successful must be promptly instituted, and if in vain, good obstetrics still demands prompt emptying of the uterus. Polak¹⁵ has not emptied the uterus for vomiting in 5 years. His treatment is like that of Waters, given above, supplemented by transfusion if glucose and insulin are not successful.

Pulmonary Tuberculosis. If, unfortunately, science has not found a better way to treat all toxic vomiters than to induce abortion in some, this is not true apparently of tuberculous pregnant women. Bridgman and Norwood¹⁶ have carefully studied, out of 14,000 obstetrical patients, 134 who had pulmonary tuberculosis to complicate their pregnancy, and arrive at some very interesting conclusions. After comparison with figures of the Board of Health of the City of Baltimore they believe that although

gestation and the puerperium may serve as a final factor to "break down" patients who have tuberculosis, there is "no evidence that pregnancy in any way promotes the incidence rate". After clearly presenting various groups of their tuberculous patients with mortality and morbidity figures, they write: "It is better for the tuberculous not to become pregnant, but the risk is by no means prohibitive in inactive cases, provided the household duties can be controlled, additional rest obtained, and the lesion is of the fibroid type and has been quiescent for at least three years". "What shall we do in the case of a pregnant woman in whom active tuberculosis is found?" "Treat the tuberculosis to the uttermost, and disregard the pregnancy." "Artificial termination of pregnancy is not indicated (italics theirs), and, in one series, has led to a somewhat worse outcome." "... We believe that at no stage of pregnancy is operation warranted." Thus, is still another complication by way of being removed from that formerly long list which was taken to justify the too frequent abortions of only ten years ago. The authors do advise sterilization if a competent internist can demonstrate that future pregnancies are contra-indicated. They advise prompt separation of mother and child if there are any signs of activity.

Heart Disease. The problem of the pregnant patient with heart disease has been not unlike the problem of the tuberculous. In both conditions, the main treatment is still rest in bed and good hygiene; but the cardiologists have apparently been unable to increase the efficacy of their treatment so that they need not advise abortion. The patient with toxic vomiting or with exophthalmic goitre or with tuberculosis may possibly have her child, but the severe cardiac is still subject to interference. Of course necessary abortion is not nearly so frequent as formerly, so there is great encouragement as time goes on. Hamilton and Kellogg¹⁶ have studied intensively those afflicted with heart disease at the Boston Lying-In Hospital, and treated them with gratifying results. Experience forces them to a commendable conservatism, which could well serve as a good example. They are sure that "if a patient with a heart disease develops decompensation during pregnancy she belongs in a hospital till the pregnancy is terminated". Interruption is advised: "(1) for a patient who has or has had clear signs of congestive failure; (2) for a patient who has a complicating nephritis or hypertension; (3) for a patient who has auricular fibrillation, absolute disorder of the heart beat; (4) for a patient who has at present a rheumatic fever". "The majority of multiparous cardiacs", they say, "are safest delivered by forceps at full dilatation from below, with sterilization some months subsequently if it is advisable". "The indications for sterilization following de-

livery are the same, by and large, as those given for interrupting pregnancy." They furthermore add, with gratifying discretion, "we do not believe it is justifiable to do a cesarean for the sake of sterilization"; a practice all too common, I might add. Kellogg believes that ether is still superior to scopolamin, morphia and local anesthesia for cesareans, because of the extreme undesirability of nervous excitement in a patient with severe heart trouble. It is fair to say that their choice is not universal among the staff of the Boston Lying-In Hospital, and without intending personal criticism I might mention the great importance of surgical technique for successful operating under other than complete narcosis. Ether is certainly better for operations by all but those well trained and experienced in the delicate art of operating under local anesthesia. A report is given of work with the pregnant patients with heart disease at Sloane Maternity in New York, by Corwin, Herriek, Valentine, and Wilson¹⁷. Like cardiologists and obstetricians everywhere they find diagnosis very difficult, and are forced to depend more or less on behaviour as a criterion of gravity. They do say, though, that the traditionally serious mitral stenosis is surpassed in maternal risk by aortic insufficiency. It will be remembered that Hamilton, too, warned of the danger of hypertension with cardiac disease. At Sloane they consider a time factor, as was common in tuberculosis five years ago. "If circulatory breakdown occurs before the fourth month", they say, "abortion is usually wise; if not until later, it is usually possible to carry on with safety until term, or until lack of suitable response to medical treatment indicates a condition so serious that pregnancy must be ended". But they wisely modify this by saying "no attempt should be made to induce labor in a badly decompensated patient".

Late Toxemias. Studies made by Stand-er^{18, 20, 21} and others in Williams' clinic at Johns Hopkins Hospital have thrown a splendid searchlight into the stygian depths of eclampsia and the so-called pre-eclamptic toxemias. It does seem as if another head of the obstetrical hydra should be lopped off soon. These toxemias they have finally placed on a logical basis, so that now results of treatment in various clinics can be compared and rational improvements made. They are divided and characterized thus:

1.—Eclampsia. Convulsion, sudden high blood pressure and albumin. Hyperglycemia. Increased lactic acid in the blood, not wholly due to muscular activity. A decreased CO₂ combining power. Usually no increase in N. P. N., but sometimes a definite increase in B. U. N. High uric acid content. Detachment of retina or edema of the retina, but never albumin-uric retinitis. (This form does no damage to

the kidneys and is not a contraindication for further conception.)

2.—Pre-eclampsia. Differs from above only in absence of convulsions. (Probably the rarest form of toxemia.)

3.—Chronic Nephritis. Relatively high diastolic pressure and albumin in the urine. High N. P. N. Albuminuric retinitis and arteriosclerosis or edema and hemorrhage into the retina. (Increased blood pressure and albumin are present for weeks after delivery. The condition progresses with each subsequent pregnancy and gives progressive kidney damage.)

4.—Eclampsia superimposed upon nephritis.

5.—Low Reserve Kidney. Moderate rise in blood pressure to about 150. Small amount of albumin in the urine in the last few months. Sometimes edema and headache. (Signs disappear at the end of the puerperium, and the kidney is not damaged by pregnancy.)

The treatment of patients may well be regulated by their distribution among these five classes. That for those with a "low reserve kidney" is as the internist would suggest, — rest, elimination, a plentiful supply of water, and a moderately low protein intake. In chronic nephritis and pre-eclampsia we are concerned not only with the mother but the fetus, too; for intrauterine death is common. If the nephritis cannot be controlled and the blood pressure diminished by rest and diet, termination of pregnancy at viability must be considered. In the treatment of these conditions, then, there has been no great progress made in the last few years. The treatment of pre-eclampsia and eclampsia, however, is improving steadily. Stroganoff, several years ago, demonstrated the value of conservatism in the presence of convulsions, and his teaching to use morphia and scopolamin and wait has been generally accepted. Stander²¹ found in dogs that morphia raised the CO₂ combining power, which might account in part for its beneficial effect in the Stroganoff routine. Davis and Harrar²² of the New York Lying-In Hospital assert regarding this drug that "the results for the baby with the larger doses of morphia and the now conservative method of delivery would indicate that the dangerous effect of large doses of morphia on the fetus has been overestimated". As Polak⁸ disregards labor until full dilatation, so they believe "obstetric intervention should be for obstetric indications only and not for the convulsions".

Venesection has long been practiced to alleviate hypertension and fend off convulsions in pre-eclampsia and eclampsia. Stander²¹ raises the question whether the elevated blood pressure may not in itself be a protective mechanism for elimination, and thinks that the removal of 750 cc. out of the total volume of blood and tissue fluids is probably too little

to remove an appreciable amount of "toxins" and more than 750 cc. is dangerous.

The two newer methods in vogue for treating pre-eclampsia are the use of magnesium sulphate and glucose with insulin. Of magnesium sulphate, Stander²¹ believes, from the results of experiments with dogs, that it lowers the CO₂ combining power, increases the blood sugar and gives fatty changes in the liver, results diametrically opposed to our objective in treating eclampsia. His, however, is a lone voice. Lazar²³ of Los Angeles caustically attributes Stander's evil laboratory results to excessively large doses, and vigorously retains his previous position in full favor of the use of the drug, giving some highly satisfactory case records and results. He asserts that magnesium sulphate has no bad effect on the blood, that his continued experience with it increases his confidence in it, and that, though it is not a cure-all, development of its use should reduce the mortality in eclampsia at least to 10%, and possibly to 5%. Dorsett²⁴ of St. Louis reported 38 cases with the death of only two. Without other medication he repeatedly injected 15 cc. of a 25 percent solution into the buttocks, several of his patients receiving as high as 100 cc. of the drug in 24 hours. He attributes to its use such desirable results as relaxation of voluntary muscles with no depressing effect on uterine contraction, marked diuresis but no purgation. McNeile and Vruwink²⁵ also report good results from the Los Angeles General Hospital. The mortality rate dropped after general use of magnesium sulphate from 36% to 14.8%, a commendable improvement, but not comparable to Greenhill's²⁶ report from the Chicago Lying-In Hospital which quotes a mortality of 7.7% corrected to 6.5% among 78 patients. Though magnesium sulphate is not one of the major factors in these latter figures DeLee⁴ says: "It is evident from the numerous reports that magnesium sulphate can be safely used in eclampsia (all forms) and that it helps to reduce the previously high mortality". McNeile and Vruwink²⁵ give, intravenously, 20 cc. of a 10% solution in pre-eclampsia if the blood pressure reaches 150, and repeat it as increased pressure or symptoms of toxemia indicate. "Administration of the drug", they say, "is usually followed by some reduction in blood pressure, reduction of edema (probably including cerebral edema), and an increased output of urine. The same dose given during the convulsive stage, they expect, will "stop or at least limit, the number of convulsions". "The use of this drug apparently not only controls the convulsions but exercises a favorable influence on other symptoms due to acute lesions in the parenchymatous organs". With the exceptions of restriction of diet to no protein or salt, forcing of fluid, and catharsis, magnesium sulphate intravenously is the only treatment in the routine of the Los

Angeles General Hospital. As many as 8 injections in 24 hours have been given. Polak¹⁸ recommends a much stronger dose. If morphia and venesection do not obtain results he gives intravenously 100cc. of a 25% solution. This seems a little strong, for respiratory failure can occur. "Termination of pregnancy is indicated only when symptoms persistently recur and do not respond to treatment".

Regarding insulin, Stander²¹ writes: "As acidosis is the outstanding finding in eclampsia, and probably the cause of death, insulin, with a protective dose of glucose, approximately 2 gm. per unit, is satisfactory therapy". He and Dunnean²⁷ believe that hyperglycemia and decreased CO₂ combining power are fairly reliable indices of eclampsia; so, in the presence of a CO₂ combining power of 30 or below with hyperglycemia, plus coma or semiconsciousness following a convulsion, they give from 15 to 25 units of insulin, with a protective dose of glucose as mentioned above. The degree of hyperglycemia and the weight of the patient determine the amount of insulin to be given.

Until comparatively recently there was general agreement that the sooner the eclamptic patient was delivered the better off she was. About three years ago Stroganoff's method of deep narcosis with morphia and scopolamin, together with "masterly inactivity", was widely heralded and pretty generally accepted. It is undoubtedly the best treatment outside of thoroughly equipped hospitals and the services of really skilled obstetrical operators. After discussing in detail 78 cases from the Chicago Lying-In Hospital Clinic, with a mortality of only 7.7%, Greenhill²⁶ writes these conclusions: "As a result of this study, we feel that the treatment of antepartum and intrapartum eclampsia should not be entirely conservative nor entirely radical. However, in experienced hands we favor emptying the uterus in most cases, and the method selected depends on the condition of the patient, the size of the baby and the state of the cervix. Where the patient is a primipara with a viable baby and the cervix is undilated, we prefer to terminate pregnancy by a lower cervical cesarean section *under local anaesthesia* as soon after the first convulsion as possible. We believe that all patients with eclampsia should be sent to a hospital. When a patient must remain at home the treatment should be conservative. It should also be conservative in a hospital when the attending physician is not skilled in operative obstetrics."

McNeile and Vruwink²⁵ believe that "if there is no constant and protracted alleviation of symptoms (by repeated injections of magnesium sulphate) the best interests of mother and baby are served by interrupting the pregnancy". In the primipara, they, like Greenhill, prefer cesarean section under local, gas, or spinal anesthesia, and in the multipara, more

conservative measures. Stander²¹ found that whereas ether and chloroform had an undesirable effect on the blood findings, morphia raised the CO₂ combining power, and novocaine and procaine (even up to 20 cc of a 2% solution) had no effect on blood findings. Astley²⁸ of Philadelphia rather favors spinal anesthesia for cesarean section on patients with toxemia, and gives good reasons from both maternal and fetal standpoints.

Before leaving the subject of the toxemias, mention should be made of the suggestion of Mussey²⁹ that ammonium chloride is good treatment for the edema of the nephritic type of toxemia. It should be used only if examination of the blood shows urea and alkali reserve, as manifested by a high CO₂ combining power. In such cases he advises rest in bed, and limitation of the diet to 1500 calories with 50 mgm. of protein, a minimum of salt, and 800 cc. of fluid. He would then give 10 gm. of ammonium chloride daily until the edema disappeared. This is given in gelatin capsules containing 1.5 gm. each.

Placenta Previa. The "causeless, painless hemorrhage of the latter half of pregnancy" is still one of the major complications which contributes heavily to both maternal and fetal mortality. More progress has been made toward diminishing its danger by alacrity of diagnosis than by special treatment. The growing realization on the part of the profession at large that even the slightest red "show" after the twentieth week of pregnancy may be the first sign of what might terminate months later in a fatal hemorrhage from placenta previa is saving the lives of many mothers and babies. Once the condition is diagnosed, the patient **must** either be kept in her bed within easy reach of the operating room, until viability is reached or treatment forced, or she must be delivered at once. Though the best treatment is not clearly identified as such, the worst is finally recognized. Accouchement forcé is no longer good practice. There is still difference of opinion as to the relative merits of Braxton-Hicks version, the use of the Voorhees bag followed by version and slow extraction, and cesarean section. Kellogg's conclusions (from his study of twenty-five years of treatment at the Boston Lying-In Hospital) are worth careful consideration. Although he formerly thought that Braxton-Hicks version was the operation of choice, he now believes that all central and partial previas are best treated by low abdominal cesarean sections whether the baby is viable or non-viable, living or dead; and that marginal placenta previa is best treated by Voorhees bag induction. "Hysterectomy", he says, "following section should be frequently practiced, each case to be considered by itself on the following grounds; risk of sepsis from previous history, persistent bleeding following the section, the number of de-

pendent children at home". The results during thirty years' treatment in Karlsruhe lead H. Wagner³¹ to the same conclusion. Like Kellogg he believes that cesarean section should be performed for both central and lateral placenta previa, even when the child is dead. Both of these authorities obviously presuppose excellent surgical ability on the part of the obstetrician.

INDUCTION OF LABOR

The use of castor oil to induce labor is practically in folk lore. Quinine as an adjunct has been used for years. Since the active principle of the anterior pituitary body has been available it, too, has been used. A combination of all three given in the proper doses and the correct sequence is frequently successful. Mathieu³², of Portland Oregon, had only 3 failures in 91 attempts by the following method, though 6 cases required 3 attempts and 20 cases were successful only after the second attempt. His patients are sent to a hospital, where they take 2 ounces of castor oil and 10 grains of quinine. Exactly 2 hours afterward a hot soapuds enema is given. As the enema is about to be expelled 3 minims of pituitary extract are given hypodermically. This same dose of pituitary extract is repeated every 30 minutes until labor starts and no longer. Failure is admitted and the procedure stopped if 8 hours pass without labor being started or if there is absolutely no sign of any effect toward the induction or if the continual use of the hypodermic is too trying to the mother. In such cases, the mother is given an hypnotic sedative and after 24 or 48 hours the induction is again started. Scott³³ of Toronto, says that the use of castor oil and quinine is practically free from maternal danger if properly used, that tetanic contractions can usually be controlled by the administration of an anesthetic. Gellhorn³⁴ is not so sure there is no danger in using quinine. He has searched the literature on its use and finds only Povak fearful of it. He warned of its danger in his Thèse de Paris in 1878. Gellhorn recites in detail one case of cessation of fetal movement on the day of exhibition of 30 grains of quinine and 4 tablespoonsful of castor oil with subsequent delivery of a macerated fetus. He mentions one other case of fetal death apparently coincident with the exhibition of quinine. He thinks that in the former case, signs of intrauterine death occurred so promptly after the ingestion of quinine that causal relationship between the two must be assumed.

Until quite recently pituitary extract was always given intramuscularly if prompt and certain action were desired. Now at Johns Hopkins³⁵, they are giving it intranasally, 15 minims on a cotton plug inserted just under the inferior turbinate. Good results are obtained, and there is the added advantage of accessibility of the unabsorbed portion if the dose

appears to be too strong. Knaus³⁶, of England, writes of the extract: "When administered by mouth, after a latent period of about 8 minutes, it exerts a marked action on the uterus, increasing both the tone and automatic movements".

ANALGESIA

No startling progress has been made in the very important matter of diminishing the pain of labor. Harrar³⁷ of the New York Lying-In Hospital staunchly upholds their method of analgesia devised by Gwathmey. He reports pain relieved in 85% of cases. "In 5800 analgesized labors we have observed no increase in asphyxia or in the stillbirth rate. There is no prolongation of the perineal stage or increase in forceps delivery. The only contraindication to the procedure is uterine inertia and the only restriction is not to start too soon. The woman should be in active labor: that is, pains every four to five minutes, lasting forty seconds by the watch, and in a primipara, preferably the cervix should have attained a dilatation of two or more finger tips". Then he boldly says: "We are assured that this is the safest and most effective manner of relief of the pain of childbirth over a period of hours that has yet been devised, and are convinced that it will abolish the most dreadful part of the ordeal of labor without danger to either the mother or her baby". "Tis a consummation devoutly to be wished." The method has not been changed: morphia and magnesium sulphate intramuscularly, followed by rectal instillation of a mixture of ether and a little quinine with either olive or mineral oil. The details of the administration of these common drugs must, however, be scrupulously observed.

Of late, it seems, the combination of morphia and scopolamin, is returning to vogue, though used with much more delicacy and care than in the discredited "twilight sleep" technique. Carter³⁸, of Tuskegee, uses pantopon instead of morphia, planning thus to avoid the headache and vomiting so frequently induced by morphia. His first dose consists of 1/3 grains of pantopon and 1/100 grain of scopolamin. One hour later he repeats the latter, and then gives either 1/200 or 1/400 grain as often as is indicated by the susceptibility of the patient, and the progress of the labor. Reminiscent of Harrar, above, Carter considers his method a perfect first stage anesthetic.

TECHNIQUE OF DELIVERY

The more general use of hospitals for confinements, and the improvements of antiseptic and operative technique make advisable, sometimes, procedures which would otherwise be certainly meddlesome if not dangerous. Carrell³⁹ believes the pain and some of the danger of the second stage of labor can be diminished by elec-

tive median incision of the perineum down to the superficial fibres of the anal sphincters, with lateral extension, on one side or the other, through the posterior fibres of the levator-ani muscle. "The incision should be", he says, "a method of choice, and not one of necessity". Henkel¹⁰ also believes in such interference as soon as the perineum bulges.

The search for the origin of cancer has led men to view with great concern neglected tears of the cervix. There can be no doubt that cancer at least develops more easily, if indeed it is not originally inaugurated, by partially healed lacerations. Farrar¹¹ stresses the likelihood that cancer will develop in the cervix in which erosion, eversion, and cystic changes have followed laceration. He advises early repair after childbirth. Titian Coffey, of Los Angeles, has done this for 16 years, says N. H. Williams¹², who now repairs all torn cervixes on the ninth day postpartum. About examination 6 weeks after delivery, he writes: "The cervix is then well healed, scarcely any scar is visible, the os is small and round, admitting only the tip of a uterine sound". McDonald¹³, of Duluth, is even more ardent. "Immediate repair", he says, "gives satisfactory results and should be carried out at once", in spite of undue manipulation and danger of infection. If delivery through an undilated cervix is justifiable, he adroitly argues, repair is equally so, "since the second (procedure) is but the necessary completion of the first". DeLee⁴ also favors immediate repair.

During the last year interest has rapidly grown in the question of the best location for the cesarean incision; whether it should be in the fundus or through the lower uterine or cervical segment. Many advantages are claimed for the latter approach: the suturing is in the non-contractile portion of the uterus, so healing should be more certain; convalescence is apt to be easier; there is less danger of sepsis in infected cases; there are fewer adhesions, none between gut and uterus; and it is said to be safer to permit subsequent delivery from below than in the, so-called, classical method. Wetterwald¹⁴, of St. Gall, Switzerland, has something to say about the relative soundness of the scars after reviewing some 3600 reported cases of the cervical operation. He found one rupture reported for every 300 operations, an incidence of 0.36%. He gives the incidence after the classical operation as from 1 to 4%. DeLee, of course, has well advertised his firm belief in the lower incision. Polak¹⁵ also makes this his routine technique. The procedure advised by Munro Kerr¹⁶ of Edinburgh is probably the best. The patient is placed in Trendelenburg position and a low longitudinal incision is made into the peritoneal cavity. Low on the anterior wall, below the fold in the visceral peritoneum a convex transverse incision is made,

with the convexity downwards: this is to avoid the large lateral vessels. The head is forced into the incision by pressure on the fundus and grasped with short forceps. The delivery is then completed by further pressure on the fundus. In infected cases, the cord is dropped back, and the placenta after spontaneous separation is expressed through the cervix, when the abdomen has been closed. In suturing the uterine wound close attention is paid to both ends of the incision.

BIBLIOGRAPHY

- 1 Hirst, J. C., 2nd, and Long, C. F.: The Early Diagnosis of Pregnancy by Methods of Precision: Further Observations on Sugar Tolerance Tests; Final Report. A. J. M. Sc., Vol. 171, 846.
- 2 Friedman, L. V.: Diet in Pregnancy. Boston M. and S. J., Vol. 195, No. 22, page 1015.
- 3 Kerwin, W.: Weight Estimates During Pregnancy and the Puerperium. A. J. O. and G., XI, 473.
- 4 DeLee and Polak: Pract. Med. Res. Obst. and Gyn., 1926, p. 15.
- 5 Macomber, J. Donald: Effect of a Diet Low in Calcium on Fertility Pregnancy and Lactation in the Rat. J. A. M. A., Vol. 88, 6.
- 6 Minot, G. R., and Murphy, W. P.: Treatment of Pernicious Anemia by a Special Diet. J. A. M. A., Vol. 87, 470.
- 7 Krell, S.: Blood Dyscrasia Complicating Pregnancy. A. J. O. and G., XIII, 108.
- 8 Davis, C. H.: Thyroid Hypertrophy and Pregnancy: with Data on Basal Metabolism and the Calcium Content of the Blood. J. A. M. A., Vol. 87, 1004.
- 9 Hinton, J. William: Significance of Thyroid Enlargement During Pregnancy. A. J. O. and G., XIII, 204.
- 10 Mussey, R. D., Plummer, W. A., Boothby, W. M.: Pregnancy Complicating Exophthalmic Goitre. J. A. M. A., Vol. 87, 1009.
- 11 Waters, E. G.: The Treatment of Hyperemesis Gravidarum, with Particular Reference to the Use of Glucose with Insulin. A. J. O. and G., XIII, 92.
- 12 Miller, C. J.: Glucose and Insulin in the Toxemias of Pregnancy. A. J. O. and G., XI, 70.
- 13 King, E. L.: Glucose and Insulin in the Treatment of the Vomiting of Pregnancy. J. A. M. A., Vol. 86, 1417.
- 14 Harding, W. J., and VanWyck: The Use of Fluids in the Treatment of Hyperemesis Gravidarum. A. J. O. and G., XI, 1.
- 15 Bridgman, E. W., and Norwood, V.: Pulmonary Tuberculosis and Pregnancy. Bulletin of the Johns Hopkins Hospital, Vol. 38, 83.
- 16 Hamilton, B. J., and Kellogg, F. S.: Heart Disease and Pregnancy. A. J. O. and G., XIII, 536.
- 17 Corwin, Jean; Herrick, W. W.; Valentine, Muriel; Wilson, Jessie: Pregnancy and Heart Disease. A. J. O. and G., XIII, 617.
- 18 Polak, J. O.: Present Status of Toxemias in Pregnancy. J. A. M. A., Vol. 87, 226.
- 19 Stander, H. J., and Peckham, C. H.: A Classification of the Toxemias of the Latter Half of Pregnancy. A. J. O. and G., XI, 583.
- 20 Stander, H. J., and Radelet, A. H.: The Blood Chemistry in Eclampsia. Bulletin Johns Hopkins Hospital, Vol. 38, 423.
- 21 Stander, H. J.: Clinical and Experimental Studies on the Toxemias of Pregnancy. A. J. O. and G., XIII, 551.
- 22 Davis, A. B., and Harrar, J. A.: Toxemia of Pregnancy: 879 Cases with Convulsions at the New York Lying-In Hospital. J. A. M. A., Vol. 87, 232.
- 23 Lazard, E. M.: Is Magnesium Sulphate Intravenously Warranted in Eclampsia? Clinical Results vs. Experimental Evidence. A. J. O. and G., XIII, 720.
- 24 Dorsett, L.: The Intramuscular Injections of Magnesium Sulphate for the Control of Convulsions in Eclampsia. A. J. O. and G., XI, 227.
- 25 McNole, L. G., and Vuwink, J.: Magnesium Sulphate Intravenously in the Care and Treatment of Pre-eclampsia and Eclampsia. J. A. M. A., Vol. 87, 236.
- 26 Greenhill, J. P.: Eclampsia at the Chicago Lying-In Hospital. J. A. M. A., Vol. 87, 228.
- 27 Stander, H. J., and Duncan, E. E.: The Use of Insulin in Eclampsia. A. J. O. and G., X, 823.
- 28 Astley, B. G. M.: Spinal Anesthesia for Cesarean Section for Toxemia of Pregnancy. A. J. O. and G., XIII, 83.
- 29 Mussey, R. D.: Observation on the Treatment of the Edema of the Toxemia of Pregnancy with Ammonium Chloride. A. J. O. and G., XI, 222.
- 30 Kellogg, F. S.: Treatment of Placenta Previa Based on a Study of 303 Consecutive Cases at the Boston Lying-In Hospital. A. J. O. and G., XI, 194.
- 31 Wagner, H.: Placenta Previa in Karlsruhe from 1892 to 1923. Ztsch. f. Geburt. u. Gynak., Vol. 89, 695.
- 32 Mathieu, A.: Observations on the Use of Castor Oil, Quinine, and Pituitary Extract in the Induction of Labor. A. J. O. and G., XIII, 223.
- 33 Scott, W. A.: Present Status of the Induction of Labor by Means of Pituitary Extract. A. J. O. and G., XII, 671.

- 34 Gelhorn, G.: Can Quinine Kill the Fetus in Utero? A. J. O. and G., XIII, No. 6.
- 35 Hofbauer, J., and Hoerner, J. K.: The Nasal Application of Pituitary Extract for the Induction of Labor. A. J. O. and G., XIV, 137.
- 36 Knaus, A. H.: The Action of Pituitary Extract Administered by the Alimentary Canal. Brit. Med. Jour., 1926, 1, 234.
- 37 Harrar, J. A.: Rectal Analgesia in Labor. A. J. O. and G., XIII, 486.
- 38 Carter, P. J.: Pantothon-Scopolamin Seminarcosis in Labor. A. J. O. and G., Nov., 1926.
- 39 Carrell, J. F.: Perineal Injuries During Parturition, with a Report of 326 Cases. A. J. O. and G., XIII, 627.
- 40 Henkel, M.: Median Deep Episiotomy to Prevent Prolapse of the Uterus. Zentralbl. f. Gynäk., Vol. 50, 769.
- 41 Farrar, L. K. P.: The Reaction of the Tissues to Radium in Treatment of Cancer of the Cervix, and the Importance of Laceration in Producing Cancer in This Location. A. J. O. and G., XII, 600.
- 42 Williams, N. H.: Injury of the Cervix Uteri and Its Immediate Repair. A. J. O. and G., XII, 364.
- 43 McDonald, A. L.: Protection of the Cervix Uteri During Labor. A. J. O. and G., XIII, 76.
- 44 Wetterwald, M.: On the Question of Rupture of the Uterus After Suturing of the Cervical Transperitoneal Wound. Zentral. f. Gynäk., Vol. 50, 592.
- 45 Polak, J. O.: Technique of Transperitoneal Cesarean Section. S. J. and O., Vol. 42, 551.
- 46 Munro Kerr, J. M., and Hendry, J.: Conservative Cesarean Section in the Lower Uterine Segment Incision. S. J. and O., 1926, Vol. 42, 55.

MAJOR J. P. COUPAL LAYS GAIN IN CANCER TO LONGER LIFE SPAN

"HUMAN cancer is on the increase," says Major Coupal. "Just what the absolute increase amounts to is difficult to determine. The figures advanced by various authorities differ in so far as they have been compiled from different sources and angles of approach. The highest percentages of increase have been derived from the census mortalities; the lowest have usually been obtained from the clinical, biopsy and post-mortem data.

"J. W. Schereschewsky in a study of a continuous twenty-year period, estimates this increase at 46 per cent., basing his figures on one of the most reliable sources of human mortality in the civilized world, the ten original registration areas of the United States. He covers the period from 1900 to 1920.

"F. L. Hoffmann, using as data the death rate in twenty-three American cities with a population of more than 20,000,00 in 1925, reports an increase of 50 per cent. in deaths from cancer. He claims that this increase is real and not apparent.

"A conservative estimate suggests that the mortality statistics which when averaged, show an increase of 50 per cent. in the deaths from cancer in the last three decades, should be interpreted as follows: Thirty per cent. is due to better diagnosis and greater accuracy in reporting causes of deaths. Ten per cent. represents an actual increase in the incidence, due to the greater number of individuals, with no greater susceptibility to this condition than the persons who reached the cancer age twenty years ago, and who now attain it to swell the numbers that succumb to this dread incubus. The remaining 10 per cent., another real increase of incidence, is probably due to a larger number of individuals reaching the later decades of life, with those somatic defects of tissues and organs which are

thought to raise their chances of having cancer."

Major Coupal then declares that conservative clinicians contend that 30 per cent. of cancer is being cured.

"What does this mean?" he continues. "This 30 per cent. of cures is obviously missed in a study based on mortality rates. On the other hand, this percentage is computed for the most part on the so-called operable cases, and for this reason represents only about 50 per cent. of the totally observed clinical incidence of this dreaded scourge.

"Therefore, one-half of this 30 per cent. of cures or 15 per cent., must be added to the mortality rates, making an actual net increase of 35 per cent., which probably represents the actual increase of the menace of cancer to the human race, not explainable in any way except possibly in the changing human habits brought about by modern civilization, since this increase is not observed in virgin races."—*New York Times*.

METHOD OF STERILIZATION OF THERMOMETERS REVISED

THE experience of the United States Naval Medical Supply Depot shows that the sterilization of clinical thermometers by immersion in a 10 per cent. solution of liquor formaldehyde (made by diluting one part of liquor formaldehyde with three parts of water) insures a solution with a potent germicidal activity. It has been found that such formaldehyde solution not only does not affect the pigment on clinical thermometers, which is readily removed by other disinfectants, but even fixes this pigment.

Field stations of the Bureau will adopt this method of sterilization of clinical thermometers. The solution of formaldehyde so prepared, being volatile, must be renewed at frequent intervals. —*U. S. Daily*.

CO-OPERATION AIDS HEALTH PROMOTION

SERVICE RENDERED IN RURAL COMMUNITIES OUTLINED IN YEARLY REPORT

COÖPERATIVE rural health work carried on by the United States Public Health Service with state health agencies during the fiscal year ended June 30 "yielded results exceeding in value many fold the cost of the work," according to a statement made public October 27 by Surgeon L. L. Lumsden, of the Public Health Service.

During the year the Service coöperated in demonstration projects in rural health work in 86 counties in 18 States.

The 86 coöperative projects in the fiscal year ended June 30, 1927, yielded results exceeding in value manyfold the cost of the work.—*U. S. Daily*.

**Case Records
of the
Massachusetts General Hospital**

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 13451

TUMOR UNDER THE LEFT RIBS

MEDICAL AND SURGICAL DEPARTMENTS

First admission. A carpenter thirty-five years old entered the hospital March 7 complaining of enlargement of the abdomen.

For the past five years he had had attacks of diarrhea with watery stools about once in two weeks accompanied by nausea occurring early in the morning and stopping after one or two good movements. During the past year he had had cramps in the arm and calf muscles weekly. Seven months before admission he found that he became easily fatigued and that trivial things annoyed him. He felt something hard in the left upper quadrant. This mass increased in size. The other symptoms continued with little change until a month before admission. His diet had been very largely meat with very little vegetable food until the past four months, when he had substituted cereal for much of the meat. A month before admission fatigue became more marked and he had edema of the ankles during the day, disappearing overnight. The left upper quadrant mass became rapidly much larger, extending below the umbilicus and slightly to the right of the midline. His appetite was good, but a very little food made his stomach feel full. He had frequency and urinated two or three times at night, he thought because of the pressure of the mass upon his bladder. Two weeks before admission he consulted a physician who sent him to a hospital. His symptoms were not relieved.

His family history is negative.

He had pneumonia five times between the ages of three and twelve. He had malaria two summers in succession when he was ten and eleven years old. At fifteen he had jaundice. About this time he had rather frequent nosebleeds, usually from the left nostril. At twenty-five he had a light attack of influenza. He denied venereal disease. His best and usual weight was 150 pounds, his present weight 152.

Clinical examination showed a well nourished man. Some pyrrhea. Apex impulse of the heart visible and palpable in the 5th space 11.5 centimeters to the left of midsternum, 4 centimeters outside the midclavicular line, coinciding

with the left border of dullness. No other enlargement to percussion. Sounds and action normal. Pulmonic second sound greater than the aortic second. A soft blowing systolic murmur at the base, heard better over the pulmonic area. Abdomen much distended. A hard slightly tender mass, noted just above the umbilicus, extended far into the bottom of the left lower quadrant. The splenic dullness extended from the 8th left interspace down over the left midaxillary line. Right lower quadrant tympanitic. Liver edge not palpable. Slight tenderness in the left costovertebral region. No signs of fluid in the abdomen. On the left forearm there was a small soft tumor, probably lipoma. Genitals, rectal examination, pupils and reflexes normal.

Amount of urine normal on the one occasion recorded, specific gravity 1.015 to 1.025, urine slightly turbid at two of four examinations, a slight to the slightest possible trace of albumin at three, 5 to 10 leucocytes per high power field at one sediment examination, occasional red cells at another. Blood: 110,600 to 553,600 leucocytes, 58 to 47 per cent. polymorphs, 32 to 22 per cent. myelocytes, 2 to 6 per cent. lymphocytes, 0 to 4 per cent. large mononuclears, 4 to 3 per cent. eosinophiles, 1 to 4 per cent. basophiles; at one count 13 per cent. myeloblasts, 2 per cent. unclassified; normoblasts in two counts 2 to 7; hemoglobin 55 to 65 per cent., reds 2,840,000 to 3,796,000, some anisocytosis at two examinations, poikilocytosis at one, moderate achromia and polychromatophilia at the other. Platelets seemed reduced once. Wassermann negative. Non-protein nitrogen 62 milligrams. Fragility 5.8—3.4. Clotting time 7 minutes, retraction good. Icteric index 3. Basal metabolic rate March 14 +37, pulse 72, weight 62.7 kilograms; March 16 rate +27, pulse 74, weight 62.5 kilograms. Uric acid 6.4 milligrams per 100 cubic centimeters of blood. March 16 uric acid 0.675 milligrams in 1 cubic centimeter of urine, 1.518 milligrams in 24 hour urine; March 17 0.476 milligrams in 1 cubic centimeter of urine.

March 17 X-ray treatment was started. The patient felt much better and the spleen became much smaller. There was some improvement in the peripheral blood, but the leucocyte count remained 307,000 March 26. March 27 he was discharged to the Out-Patient Department and the X-ray Therapy Clinic.

History of interval. X-ray treatment was continued to June 22. His condition improved markedly. He felt very well and worked steadily up to the time of his second admission. He had no anemia or swelling of the ankles and did not tire so easily as before his first admission. May 23 blood examination showed 18,350 leucocytes, 70 per cent. polymorphs, 32 per cent. lymphocytes, hemoglobin 70 per cent., 5,520,000 reds. At this time a medical consultant found

him looking and feeling well and recommended splenectomy. The spleen was smaller. June 25 he was feeling well and had no symptoms. His spleen was larger. The white count was 55,000.

Second admission. August 10 he entered the hospital for the second time. He understood the course of his disease and was ready to accept the chance of benefit from splenectomy. At the time of his second admission he thought the spleen was slightly larger than in June.

Clinical examination showed an extremely healthy looking young man, up and about. The examination was negative except for several pea-sized glands in the axillae, the small tumor on the left forearm previously noted, and the splenic mass, now about 4 fingerbreadths below the costal margin in the midclavicular line and just at the costal margin in the midaxillary line. The liver was just felt in the costal margin. The contour of the abdomen was normal.

Before operation amount of urine not recorded, urine cloudy at one of two examinations, otherwise normal. Blood before operation: 45,200 leucocytes, polynuclears 64 per cent., lymphocytes 2 per cent., large mononuclears 6 per cent., eosinophils 1 per cent., basophils 15 per cent., myelocytes 8 per cent., transitionals 2 per cent., hemoglobin 80 per cent., reds 5,400,000. Smear normal except that the platelets were somewhat diminished. Icteric index 10.

August 12 the spleen was removed. It weighed 720 grams and measured 20 x 10 x 5 centimeters. The liver was normal in appearance. There was no sign of bleeding when the operation was finished. There were no dilated vessels. The patient did well until late that night. Then he had acute abdominal hemorrhage. The abdomen was opened under novocain. Bleeding was found everywhere, including the abdominal wall, where there were several clots. A large amount of blood was found in the abdomen but no one source could be made out. The bleeding seemed to come from the bed of the spleen. It was impossible to find the pedicle. The wound was packed. Considerable blood from the abdominal cavity was citrated and put back into the circulation.

The following day there was only slight staining of the dressings. The temperature was 101°. The patient did well until midnight, when the temperature started to rise. At half past three the radial pulse and the blood pressure could not be obtained. The pulse was 150 over the precordium, the temperature 107°, the respiration 40. Intravenous saline brought the blood pressure to 90/60. When donors arrived two hours later the condition was hopeless, so no transfusion was done. That morning, August 14, he died.

DISCUSSION

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

The past events here, infections, nosebleeds, etc., are not such as can throw any particular light upon a case of which the outstanding symptom is the rapidly growing mass in the left hypochondrium. That is a rare place to meet with such masses, and when one does they are almost always the spleen. Now enlarged spleen in this climate, (as contrasted with tropical regions, in which there are many causes for enlarged spleen,) is almost always due to leukemia, much less often to Hodgkin's disease, Banti's disease or the other growths that can involve that organ. There does not seem to be enlargement of the abdomen elsewhere, or any ascites from the account as given. Therefore anyone reading the case so far would naturally think of leukemia first.

NOTES ON THE PHYSICAL EXAMINATION

This is the sort of heart one would expect when there is a certain amount of anemia or other cause for general weakness without lesions in the heart itself.

The physical examination has apparently shown that this mass, as we conjectured, is the spleen, and that there are no other abnormal masses present.

There is nothing obviously amiss with the kidney.

The blood proves that this is the myelogenous type of leukemia. There is secondary anemia with the leukemia, and reduced platelets, which is strange. Ordinarily platelets are increased in this disease.

The basal metabolism is what we expect when there is such a tremendous production of new cells as occurs in leukemia. We are not at all surprised by this metabolic rate.

There is an extraordinary reduction after X-ray treatment from half a million to 18,000 leucocytes, and the differential count is practically normal. The most unusual thing is that the reds have gone up to five and a half millions. We do not often get such a good result even temporarily, from treatment of leukemia.

The red cell count of five and a half millions is very much the best symptom. If the reds can be kept there it does not matter how many whites there are. In most cases nature cannot keep the reds elevated because they are driven out by the overgrowth of whites.

DIFFERENTIAL DIAGNOSIS

He died, of course, as the result of the operation. But for the operation he would have lived a good deal longer. There are very few cases on record in which it seems clear that splenectomy has prolonged life. It can be said that neither

does X-ray. Dr. George R. Minot's figures show that although we can make the patient feel better, bring down his spleen and normalize his blood, he does not live any longer under X-ray treatment than under any other.

There is no need of further discussion here, because we have had the essentials of the necropsy already through the blood examination.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Myelogenous leukemia.
Post-operative hemorrhage.

DR. RICHARD C. CABOT'S DIAGNOSIS

Myelogenous leukemia.

ANATOMIC DIAGNOSES

1. *Primary fatal lesion.*

Myelogenous leukemia.

2. *Secondary or terminal lesions.*

Operative wound, splenectomy.
Post-operative hemorrhage.

DR. MALLORY: The death was of course the immediate result of the operation, and the only real interest in it was that the pedicle of the spleen was found. The vessels were firmly tied. The bleeding was a diffuse type from the entire bed from which the spleen had been removed. The spleens of leukemia often have adhesions about them, particularly following X-ray treatment.

The reduced number of platelets is probably of some significance, because the bleeding is much more marked than is customary. But there was certainly no technical error on the part of the surgeon. Everything had been done as well as possible.

DR. CABOT: Have you any comment, Dr. Young? There were no signs of bleeding and no dilated vessels at the end of the operation.

DR. YOUNG: I do not think I have anything to add. I have an impression that splenectomy in leukemia carries a very high mortality for some reason. I do not believe the bleeding here was any more than the general ooze that often occurs in these cases. Where there is a great deal of perisplenitis it is often very difficult, if not impossible, to control all the oozing.

DR. CABOT: I do not think that is quite so. Some of the Mayos' leukemic patients have not died after splenectomy.

DR. MALLORY: Dr. Vincent has done a few leukemic spleens here, too, that have not died.

NOTE BY DR. A. V. BOCK

Splenectomy was done in this case after months of consideration. Our idea was based on the following facts:

In the early stage of the disease response to X-ray therapy is immediate and remarkable. The spleen shrinks in size, the white blood cells

are reduced to 20,000 to 30,000, leaving very few abnormal cells in the blood, and the general well being of the patient is greatly improved. The result suggests that in the spleen is located the stimulating factor causing the spread of the disease. Given an early case, having no anemia, and showing a typical response to X-ray therapy, the evidence suggests that invasion of the bone-marrow by the tumor is not extensive and that further spread might be prevented by removal of the spleen. In the cases reported in the literature the data given are insufficient to enable one to judge the relationship between the blood findings before and after X-ray treatment.

In the present case, the disease having been thoroughly discussed with the patient, we believed that life could be prolonged beyond the period of expectancy by splenectomy because of the above considerations. On November 4, 1916, Dr. Vincent removed the spleen in a case of myelogenous leukemia then in an aleukemic phase. The patient has not had symptoms referable to leukemia although she has had a white count of 25,000 to 30,000 ever since operation, with a microscopic blood picture characteristic of myelogenous leukemia.

A second case done by Dr. Brewster in private practice three and a half years ago is still well and has had no symptoms since operation.*

The case we are now considering brings up a new problem. No abnormalities were found in the physical characteristics of his blood, i. e., bleeding time, coagulation time, and clot retraction. The cause of death was hemorrhage which cannot be accounted for by the surgical technique. Changes appear to have occurred in the blood promoting hemorrhage almost immediately after splenectomy, a condition certainly not uniformly observed after splenectomy for this disease. The situation in this case is analogous, although in the opposite direction, to that occurring after splenectomy in thrombopenic purpura, where removal of the spleen is promptly followed by complete checking of hemorrhagic tendencies. Bleeding as a result of operation was unforeseen by both Dr. Vincent and myself. In spite of the outcome in this instance I do not believe that splenectomy should be abandoned in myelogenous leukemia because of results reported in the literature.

NOTE BY DR. BETH VINCENT

From the surgical point of view the most disturbing feature of this case was the fact that

*Note by Dr. G. W. W. Brewster: This was a woman of sixty-five. She had known she had an abdominal tumor for four months. There was a solid, hard, nodular, movable tumor filling the left half of the abdomen. Nothing was felt by vagina. The upper limits of the tumor could not be made out. The pre-operative diagnosis was solid tumor of the ovary, malignant, or fibroid, or malignant tumor of the omentum, or multilocular cystic disease. April 11, 1924, operation was done. The tumor proved to be an enormous spleen. It was removed. Dr. H. F. Hartwell made a pathological report of splenic myelogenous tumor. Dr. Maurice Fremont-Smith confirmed the diagnosis by blood examination. Today, October 24, 1927, the patient's physician reports that she is perfectly well clinically, with no symptoms.

this uncontrollable pathological bleeding did occur after operation in a patient whose blood had been very carefully studied before operation without giving any suggestion that bleeding of this abnormal type would occur.

CASE 13452

CARCINOMA OR DIVERTICULITIS?

SURGICAL DEPARTMENT

A married Englishwoman fifty-three years old, a weaver, entered the hospital June 6 complaining of pain in the left lower quadrant and constipation.

For three years her bowels had been more or less constipated, more so for the past year, and severely constipated for the past six months. There had been no periods of diarrhea. For six months she had had some tenesmus, severe for five months. She had had much eructation of gas and frequently considerable swelling and tenderness of the abdomen. For six months she had had occasional severe cramp-like pains in the lower abdomen especially following eating and especially marked in the left lower quadrant. The attacks were almost invariably accompanied by vomiting with relief. Six weeks before admission her condition became acute. She went to a hospital and was operated upon. Because of unsatisfactory post-operative conditions she was referred to this hospital.

Her mother had epilepsy and died of heart disease. One brother died of tuberculosis.

Her past history was negative except for a "breast abscess" eighteen years ago and the operation mentioned. During the past year her menstruation, previously very regular, had been very irregular.

Clinical examination showed a well nourished woman lying comfortably in bed. Slight psychomotor retardation. Heart and lungs normal. Blood pressure 180/120. Radial arteries moderately thickened, with slight tortuosity and beading. The abdomen showed an eroded ulcerated stoma in the midline halfway between the pubis and the umbilicus, its edges red and very tender. The skin had been partially digested away because of the spilling of cecal contents. The stoma admitted a number 15 French catheter 12 inches without difficulty. Large quantities of golden brown frothy discharge with an odor of fermentation exuded from the stoma. Numerous sudden gurgles of peristalsis could be heard without the aid of the stethoscope. The abdomen was distended with gas, making palpation for masses unsatisfactory. Rectal examination showed much tenderness, no masses. Pelvic examination showed a second degree laceration of the perineum and purulent cervical discharge tinged with blood.

Before operation amount of urine not recorded, specific gravity 1.005, urine otherwise

negative. Blood: hemoglobin 70 per cent., reds 4,600,000. Wassermann weakly positive. Non-protein nitrogen 29 milligrams. Blood chloride 532 milligrams. Stool negative.

X-ray examination with a barium enema showed apparent obstruction to the barium at the midportion of the sigmoid loop. The patient was unable to retain the barium after the injected material had reached this point.

Before operation temperature 98.2° to 99.2°, pulse 90 to 120, respirations normal.

June 9 operation was done. Two days later the patient was fairly well. The abdomen was slightly distended. The fluid intake was not so high as it should have been at first, but by the 12th was satisfactory. There was no vomiting. There was much tenderness in the left flank. The temperature was 102.8° June 10, afterwards 98.4° to 99.8° for the next three days. The night of June 11 she was irrational. June 12 there was good drainage and she was feeling better. June 17 the flank was incised in two places and wicks drawn through. Almost nothing was obtained.

June 23 a medical consultant found the heart rate 130, regular, no murmurs, the blood pressure much lower than at entrance and consistent with the tachycardia. There was no heart failure or history of heart symptoms. The cause of the tachycardia was not clear. He advised digitalization in case the rate was maintained without variation for the next few days.

June 25 the patient was weaker, the pulse very poor. The following day it was almost unobtainable. Digitalis was begun. The next day the patient felt better and appeared stronger. The pulse was better. June 29 the pulse was lower, the temperature about normal, the wound about the same. June 30 the patient became somewhat irrational. July 2 she died.

DISCUSSION

BY EDWARD L. YOUNG, JR., M.D.

From the diagnostic viewpoint the left lower quadrant is different from the right upper quadrant in that we have fewer conditions which can cause pain; and here, with a period of three years during which this trouble had been present, a number of conditions are ruled out, such as the acute inflammatory ones which have to get relief within a short time. So it leaves us with relatively few things that ought to be making trouble. There is the suggestion in the story, with the constipation, the tenesmus, and the vomiting and cramp-like pain, that it is intestinal. That story can come, rarely with a colicky pain, from trouble in the urinary tract; but with it, when it has gone for three years, there is some reference to the kidney in other signs and symptoms; it can be in a woman something to do with her pelvic organs. But it is much more the story of a hollow viscus, and that hol-

low viscous the large bowel. Carcinoma, which we think of always after fifty in this part of the bowel, is as a rule evidenced by mucus, pus, blood, or diarrhea at some time during the stage of trouble. Chronic infectious colitis does not as a rule exist without evidence of ulceration, because that is the basis on which we make the diagnosis. Diverticulitis can be present without causing blood or pus or diarrhea, and can go on to more and more contraction from the inflammatory process around the bowel. This record does not tell us what the acute condition was, but the fact that these pains have been pains of tenesmus and cramp-like gives the suggestion of increasing obstruction.

So that I assume the patient went to the hospital for intestinal obstruction, and that they did some palliative operation to give her the first-stage relief.

Of course at fifty-three she is coming to the time of menopause, which may be and probably is the whole story of the irregularity in menstruation.

Cecal contents, except in cases of extreme rapidity of peristalsis of the bowel, should not erode.

This discharge suggests a fistula in the small bowel, and of course if it is in the small bowel it is not cecal but it is entitled to cause erosion.

Wassermann positive on one occasion is of no importance.

The X-ray backs up our logic as to the seat of follow in the sigmoid, but does not help us as to what that obstruction is. It may be malignancy in spite of the absence of blood and pus in the bowel movements, or it may be diverticulitis. The rest of the story suggests that in spite of the enterostomy there is obstruction at present.

I think I should say diverticulitis with inflammatory stricture of the sigmoid first, and malignancy second, with an enterostomy put in to give relief from the obstruction low down. I do not think of anything else that I should want to put in here.

DR. CABOT: Just what are the grounds for the diagnosis of diverticulitis here?

DR. YOUNG: Trouble for three years. That is not too long for malignancy, but we should have expected an ulcerative process in three years, and the absence of the usual manifestations of a proliferative growth with ulceration make me put the less common diagnosis first.

DR. CABOT: That is, most of our data have to be negative.

DR. YOUNG: Yes. The positive datum as a rule is the presence of the filled pockets elsewhere than at the actual site of the inflammatory obstruction, because diverticulitis as a rule, although it may be localized in one spot, generally shows itself elsewhere in pockets by X-ray.

DR. CABOT: So that our only positive fact ordinarily is X-ray.

REPORT ON OPERATION MAY 13

Median incision. Free fluid in cavity. Intestines much distended. A hard growth about the size of an egg in the sigmoid. Cecum opened and tube inserted. Drainage. Cecum stitched to fascia.

X-RAY INTERPRETATION JUNE 7

Probable lesion in the sigmoid.

DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Diverticulitis with inflammatory stricture of the sigmoid.

Malignant disease of the sigmoid.

PRE-OPERATIVE DIAGNOSIS

Carcinoma of the sigmoid.

OPERATION

Gas and ether. The condition of the abdomen following the cecostomy was such that the operation was nearly given up. From the whole lower abdomen to a point several inches above the umbilicus was a mass of adherent intestines. Immediately beneath the left rectus wound was a mass of adherent small intestine in which there was a small abscess. To the right of the wound, at its mid-portion, was a hard mass which contained an abscess holding several ounces. The sigmoid was closed with great difficulty. An annular growth was found about two inches above the peritoneal floor. Because of the great mass of adhesions, the infection and the condition of the patient it was considered hopeless to undertake a resection with end-to-end suture. It was decided, therefore, to carry the dissection down to below the growth, clamping and inverting the distal bowel and bringing out the growth and the sigmoid for a permanent colostomy. The whole operation was difficult. In spite of every precaution it was thought probable that the patient would have an extensive infection.

PATHOLOGICAL REPORT

A section of large intestine 13 centimeters long. Midway between its cut ends there is an annular ulcerated growth 3 centimeters in greatest diameter. No enlarged lymph-nodes can be found in the attached mesentery.

Microscopic examination shows a structure of clusters of large irregular gland tubules formed by atypical epithelial cells deeply invading the muscular wall.

Adenocarcinoma

ADDITIONAL NOTES FROM THE HISTORY

June 11 the cecostomy had not drained. June 12 it was draining well and the colostomy wound was draining more. June 15 the colostomy was working. The skin about the cecostomy wound

was excoriated. It was planned to use rubber cement. There was good drainage from the wick. June 16 a wick was placed down by the colostomy loop. The following day the flank was incised in two places and wicks were drawn through. June 19 a catheter was placed in the sinus at the upper end of the colostomy and the wound irrigated with Dakin's solution every two hours. Pus could be forced up by the catheter until the wound was washed clean. It was believed the cavity was well drained. The rubber dam wicks were removed. There was little evidence of inflammation in the flank now except around the incision. June 23 the lower wound had separated. It communicated with the upper wound and with the cecostomy wound. Much slough was removed. Dakin's irrigations were omitted and boric substituted because of irritation to the skin. There was a loop of bowel in the lower wound, but it showed no tendency to prolapse. June 25 the bowel in the lower wound was a little more prominent. The discharge was thinner and more profuse. June 28 the skin was more eroded. Suction was applied. It did not work during the night, but afterwards worked well.

FURTHER DISCUSSION

I assume the cause of death was sepsis. I think it will be interesting to know whether there was any more carcinoma than at that one spot. We are not told in the record that there was any cause to assume that that was based on a diverticulitis.

I do not see how they could have done any differently than they did. I do not quite see why she should have had so much infection following a simple cecostomy at the first operation.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Carcinoma of the sigmoid.
Bronchopneumonia.

DR. EDWARD L. YOUNG'S DIAGNOSIS

Carcinoma of the sigmoid.
General sepsis.

ANATOMIC DIAGNOSES

1. *Primary fatal lesions.*
Adenocarcinoma of the sigmoid with metastases.
2. *Secondary or terminal lesions.*
Sepsis of anterior abdominal wall.
Sclerosis of myocardium.
Hydrothorax (left).
3. *Historical landmarks.*
Healed fibrous pleuritis.
Operative wound, sigmoidectomy.

DR. MALLORY: There really is not much to add to what has already been given. There was an extensive gangrenous process in the anterior abdominal wall and a localized area of peritonitis immediately beneath the operative wound. This was very well walled off with fibrous adhesions, and there was no generalized peritonitis. The intestines did show numerous little white, firm nodules in the serous surfaces, quite obviously metastatic foci. It is impossible to say whether those had been present at the time of operation. Nearly a month had passed between the operation in the hospital and death. I think it is quite possible that the majority of them had developed in that time.

Elsewhere there were no metastases.

The heart was quite atrophic, weighing only 220 grams. It showed a certain degree of the brown atrophy which is so common as a senile process. There was a slight pleuritis and hydrothorax on one side, but no real bronchopneumonia.

PLAN NEW HOSPITAL FOR NARCOTIC CASES

A SPECIAL narcotic hospital, under control of International Narcotic Education Association will be established at the northeast corner of Manhattan Avenue and West 101st Street, if an option for the purchase of the site is exercised.

The option on the property was purchased, it was learned yesterday, by a group of prominent physicians and social workers, among whom are Dr. Clarence J. Owens of New York and Washington, Dr. John M. O'Connor of the New York City Department of Corrections and Captain Richmond P. Hobson, Secretary General of the World Conference on Narcotic Education.

Although the Hidalgo Realty Corporation of 152 West Forty-second Street announced yesterday that it had sold the corner to the group of physicians and social workers, Dr. Owens said last night at the Hotel Roosevelt that the announcement was premature. Negotiations have only reached the stage where an option has been obtained, he said.

The property is owned by the New York Medical College and Hospital for Women. It comprises the Community Hospital and Nurses' Home at 17-21 West 101st Street, northeast corner of Manhattan Avenue. The hospital is a four-story and basement building, fully equipped and furnished, on a plot of 45 by 100 feet. The nurses' home is a five-story structure, fronting 27 feet on Manhattan Avenue and 100 feet on West 101st Street. This building contains a reception hall for nurses, a library, office laboratories and a complete dispensary.—*N. Y. Times.*

THE BOSTON Medical and Surgical Journal

Established in 1828

Published by The Massachusetts Medical Society under the jurisdiction of the following-named committee:

For three years JOHN W. BARTOL, M.D.
FREDERICK T. LORD, M.D.
CHANNING FROTHINGHAM, M.D.
For two years HOMER GAGE, M.D., *Chairman*
EDWARD C. STREETER, M.D.
EDWARD W. TAYLOR, M.D.
For one year WILLIAM H. ROBEY, JR., M.D.
ROBERT I. LEE, M.D.
ROBERT B. OSGOOD, M.D.

EDITORIAL STAFF

DAVID L. EDSELL, M.D.
REID HUNT, M.D.
FRANCIS W. PEARSON, M.D.
JOHN P. SUTHERLAND, M.D.
GEORGE R. MINOT, M.D.
FRANK H. LAHEY, M.D.
STEPHEN RUSHMORE, M.D.
HANS ZINSSER, M.D.
BENJAMIN WHITE, PH.D.
HENRY R. VINTS, M.D.
ROBERT N. NYE, M.D.
SHIELDS WARREN, M.D.

*Deceased.

WALTER P. BOWERS, M.D., *Managing Editor*

ASSOCIATE EDITORS

GEORGE G. SMITH, M.D.
WILLIAM B. BREED, M.D.
JOSEPH GARLAND, M.D.

SUBSCRIPTION TERMS: \$6.00 per year in advance, postage paid for the United States, \$7.50 per year for all foreign countries belonging to the Postal Union.

Material for early publication should be received not later than noon on Saturday. Orders for reprints must be sent to the Journal office, 126 Massachusetts Ave.

The Journal does not hold itself responsible for statements made by any contributor.

Communications should be addressed to The Boston Medical and Surgical Journal, 126 Massachusetts Ave., Boston, Mass.

THE RELATION OF AUTOPSY STATISTICS TO MORTALITY RETURNS

THE vast amount of data that has accumulated in the mortality returns of various countries is a mine of both information and misinformation. Perhaps in no other field is it as easy to make figures prove or disprove what one would like to see. Mortality returns, in general, are based on clinical observation, the results of which depend on the accuracy and skill of the physician, character of the disease or the length of time which the physician has had the patient under his care. We are all familiar with the studies of Richard Cabot on the relation of autopsy findings to clinical diagnosis. The dissatisfaction of careful investigators, with the many errors undoubtedly presented by mortality returns, have led more and more emphasis to be placed on the study of autopsy statistics. (For example, the elaborate series by Raymond Pearl based on the Johns Hopkins Hospital autopsy statistics.)

However, it must be recognized that there are many factors which must be considered before autopsy statistics can be compared with general mortality returns. In the first place, the hospital population is not a true cross section

of the population, for many hospitals, owing to especially favorable equipment or particularly skilled members of their staffs although presumably general hospitals, have a run of certain types of disease. Thus, the New England Deaconess Hospital has a far greater proportion of thyroid and diabetic patients, and the Peter Bent Brigham of brain tumor cases, than one would find in the population at large. Moreover, in general, hospital patients tend to be those with acute illnesses rather than those with chronic illnesses.

It is impossible to draw any conclusions from the autopsy statistics which may be applied with any hopes of accuracy to the problems of disease incidence, or to transfer conclusions drawn from work with autopsy material to the general mortality reports. However, there are many points where the autopsy statistics have a great value. In the first place they serve as a check on the accuracy of the mortality returns. Applying this check to the question of the increased skill in the diagnosis of cancer, one of the much mooted points at the present time, it is rather interesting to note in Lex's dissertation (Heidelberg, 1909) from 1882 to 1894, 70.2% or 302 cancers found at autopsy were correctly diagnosed clinically, and in the period 1894-1907, 69.1% or 593 were correctly diagnosed clinically. While it is very likely that our diagnosis of early cases of cancer has greatly improved it is rather questionable as to whether there has been much change in diagnosing later cases.

Again, in connection with the cancer problem, autopsy statistics bring out the inadvisability of our present grouping which lumps cancer of the liver, stomach and intestines together. Clinically many cases of cancer of the liver are diagnosed, pathologically the lesion is very rare. The difference is due to the fact that most cases of involvement of the liver by malignant tumors are metastatic and the primary cause of death is not found by clinical examination but only by post-mortem examination. Therefore, there is marked discrepancy between the figures derived from these two methods of approximation. Unfortunately, even the accurate returns from autopsies are statistically lumped in with the obviously inaccurate clinical returns, and thus, in this particular group, the chief value of the post-mortem examination from the statistical point of view, that of checking up the clinical diagnosis, is lost.

De Vries of Amsterdam found among 1249 cases of cancer, 20% had not been diagnosed correctly, and 102 cases had been diagnosed as cancer which were not cancer. The general impression of pathologists seems to be that cancer is actually more frequent than it appears to be on the basis of mortality returns, and that, in general, increasing skill in diagnosis, assuming it to be a factor, should result in an increase of the cancer death rate; in other words, a proportion at least of the apparent increase in cancer mor-

tality may be actually due to increased correctness in diagnosis, and that if all cases of death from cancer were correctly diagnosed the death rate would be much higher than it is at the present time.

One of the most valuable studies on post-mortem statistics in cancer is that of Lubarsch (Med. Klin., 1924). In 1920—40,937 autopsies were performed in Germany, and 3,708 of these were cases of carcinoma (9.2%). The German mortality returns for the same year were 922,350 deaths and there were 52,476 cases of cancer (5.68%). In external cancers 5% of the autopsied cases were wrongly diagnosed. In internal cancer 20% were wrongly diagnosed.

Perhaps Wells is too pessimistic when he says, "We shall have no exact and very little useful information concerning cancer statistics until a very much larger proportion of vital statistics depends on post-mortem examination than is now the case." However, we can at least draw some analogy between the autopsy figures and those of the mortality returns. There are some points that seem fairly definite. The mortality returns include far more cases of cancer undiagnosed than they do cases of other diseases wrongly diagnosed as cancer. The statistics for external cancers may be considered as fairly correct. By checking against one another the autopsy statistics and mortality returns we can get a fairly accurate idea of the prevalence of almost any of the commoner diseases.

WHOLESONE FOOD OR POISON?

MILK, when in good condition, has been almost universally regarded as one of the most wholesome foods for all classes of people. Only a comparatively few years ago the dangers incident to its use when decomposed or its menace as a vehicle for certain pathogenic micro-organisms were fully recognized.

With this knowledge the diarrhoeal diseases of childhood and the dissemination of several other diseases have been successfully combatted.

Now comes a new indictment of milk by Dr. W. L. Aycock, member of the Harvard Infantile Paralysis Commission, whose opinions have been quoted in the public press. He offers circumstantial evidence, which he apparently thinks is practically conclusive, that milk may at times be the vehicle for the infection of infantile paralysis. If his findings are confirmed, more intensive propaganda is in order to bring about the more general adoption of pasteurization of milk.

Aside from the well-known dangers of contaminated milk it will probably be better for the world at large when the aesthetic and health problems are applied to treating raw milk as undesirable.

Probably raw beef is as safe and may be much safer than raw milk but the use of raw beef as a regular article of diet is very unlikely.

Observations of the production and handling of milk in many dairies would lead some people to discard uncooked milk.

By all means let us use only pasteurized milk if we object to the taste of boiled milk.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

BARNEY, J. DELLINGER. A.B., M.D. Harvard Medical School 1904, F.A.C.S., Chief of Service of Urological Department of the Massachusetts General Hospital, Consulting Urologist to the Massachusetts Charitable Eye and Ear Infirmary, United States Marine Hospital at Chelsea, Salem Hospital, Waltham Hospital, Gale Hospital at Haverhill, Cable Memorial Hospital at Ipswich and Assistant Professor of Genito-Urinary Surgery at Harvard Medical School. His subject is: "The Twentieth Year of the New England Branch of the American Urological Association." Page 817. Address: 87 Marlboro St., Boston.

SANDERS, MORRIS B. A.B., M.D. Harvard Medical School 1919, Assistant in Urology at the Massachusetts General Hospital. His subject is: "Report of Two Cases Illustrating That Repeated Miscarriages May Be Due to Pathology in the Male Genital Tract." Page 818. Address: 321 Dartmouth St., Boston.

WETHERELL, B. D. A.B., M.D. Harvard Medical School 1918, F.A.C.S., Assistant Genito-Urinary Surgeon at St. Elizabeth's Hospital. His subject is: "A Case of Papillary Carcinoma of the Renal Pelvis." Page 818. Address: 352 Marlboro St., Boston.

HAMER, H. G. M.D. Indiana University School of Medicine 1904, F.A.C.S., Clinical Professor of Genito-Urinary Diseases, Indiana University School of Medicine, Consulting Genito-Urinary Surgeon to the Methodist Hospital, Attending Surgeon of Genito-Urinary Service at Indianapolis City Hospital, Robert W. Long Hospital and James Whitecomb Riley Hospital for Children, Member of the American Association of Genito-Urinary Surgeons and the American Urological Association. His subjects are: "Soft 'Stones' Removed from the Urinary Bladder," and "Enlarged Pylotomy for Stone." Page 819. Address: 723 Hume-Mansur Bldg., Indianapolis, Ind.

PHANEUF, LOUIS E. Ph.D., Ph.C., M.D. Tufts College Medical School, 1913, F.A.C.S., Professor of Gynecology at Tufts College Medical School, Gynecologist and Obstetrician at Carney Hospital, Member of American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Honorary Member of the Societe Belge de Gynecologie et d'Obstetrique, and Corresponding Member of Societe d'Obstetrique et

de Gynecologie de Paris. His subject is: "The Transverse Cervical Incision in the Low Cesarean Section." Page 825. Address: 395 Commonwealth Ave., Boston.

MATAS, RUDOLPH. LL.D., M.D., F.A.C.S. (See page 750, issue of October 27, for further information.) His address, "The Surgeon: His Science and His Art," is concluded on Page 829. Address: 2255 St. Charles Ave., New Orleans, La.

STURGIS, CYRUS C. S.B., M.D. Johns Hopkins University 1917, Formerly Director of Thyroid Clinic and Physician at Peter Bent Brigham Hospital, Assistant Professor of Medicine at Harvard Medical School, Now Director of the Thomas Henry Simpson Memorial Institute for Medical Research at Ann Arbor, and Professor of Internal Medicine at University of Michigan, Ann Arbor. His subject is: "The Opportunity of the Dispensary." Page 836. Address: Simpson Memorial Institute, Ann Arbor, Mich.

GARDINER, JOHN C. Formerly Supt. of Englewood Hospital, Englewood, N. J., and Assistant Supt. of St. Luke's Hospital, New York City, Now Supt. of Springfield Hospital. His subject is: "The Hospital and the Community Chest." Page 849. Address: Springfield Hospital, Springfield, Mass.

WEBER, J. J. B.A., M.A., Formerly Executive Secretary Committee on Hospitals State Charities Aid Association of New York, Associate Director of Boston Dispensary, Editor of *Modern Hospital*, Now Superintendent of Grace Hospital, New Haven, Conn. His subject is: "Increasing Hospital Collections." Page 855. Address: Grace Hospital, New Haven, Conn.

ROCK, JOHN. B.S., M.D. Harvard Medical School 1918, Surgeon to Out-Patients Free Hospital for Women, Obstetrician to Out-Patients Boston Lying-In Hospital, Assistant in Obstetrics and Gynecology at Harvard Medical School. His subject is: "Progress in Obstetrics." Page 855. Address: 198 Commonwealth Ave., Boston.

Ct. Massachusetts Medical Society

SECTION OF OBSTETRICS AND GYNECOLOGY

What are the indications for the use of pituitrin during pregnancy and labor?

The indications for the use of pituitrin may be conveniently considered according to the various divisions of pregnancy and labor.

1. Antepartum.

The drug may be used to start patients in labor, in whom the indications arise, in the last few weeks of pregnancy, or in patients who are

overdue and developing large babies. The method prescribed is usually some modification of the technique devised by Watson, which is approximately as follows:—Castor Oil, one ounce, Quinine Sulphate, ten grains, a soap suds enema and a second ten grains of quinine are given at one hour intervals. If labor does not start in twelve hours 0.5 cc of pituitary extract is given and repeated every half hour until labor starts or until the patient has received six doses. Pituitrin alone has very little value in inducing labor and when used in conjunction with the other drugs mentioned will avail only if the patient is near term or overdue.

2. Intrapartum.

During the first stage of labor the drug should not be used. During the second stage it may only be safely used when the presenting part is a vertex, and is on the perineum in the primi gravide; and low in the pelvis in the multi gravida. The fact that pituitrin occasionally causes a tetanic contraction of the uterus should be mentioned. This phenomenon interferes with the utero placental circulation and if the patient is not immediately anesthetized and delivered instrumentally, the baby is in danger of asphyxiation. During a prolonged third stage it may be used to hasten placental separation.

3. Post-partum.

Pituitrin has one of its most valuable indications immediately after the expulsion of the placenta in cases in which there is an undue amount of bleeding. It should be remembered that the effect of pituitrin is very transient and at this time ergot should also be given to sustain the contracted condition of the uterus.

4. Puerperium.

During the puerperium it has some value in subinvolved uteri and in cases where the lochia is foul, due to the disintegration and Saprophytic infection of retained blood clot and fragments of placental tissue and membrane.

5. Contraindications.

- a. During the first stage of labor.
- b. Cases of protracted labor.
- c. Mechanical disproportion between foetal head and pelvis.
- d. Presentations other than a vertex.
- e. Tender and irregularly contracting uterus.
- f. Primiparae unless head is in sight.
- g. Multiparae unless head is low in pelvis.

Questions of a similar nature will be discussed in the JOURNAL each week. Queries may be sent to the JOURNAL and will be answered by members of the Committee of the Section of Obstetrics and Gynecology. Communications should be addressed to Frederick J. Lynch, Clerk of the Committee.

MISCELLANY

THE RESIGNATION OF DR. FARLOW

DR. JOHN W. FARLOW has tendered his resignation as Librarian of the Boston Medical Library to take effect at the Annual Meeting in January, 1928.

A few statements relating to Dr. Farlow and his activities will concern all who are interested in him and in the Library.

During his student days, beginning in 1877, Dr. Farlow helped Dr. Chadwick at the Boston Medical Library in various ways. When he returned to the United States in 1879, after study abroad, he again assisted Dr. Chadwick at the Library and was invited to become one of its members in 1881. In 1894 he became Chairman of the Library Committee, an important position. As the Chairman of this Committee, Dr. Farlow bought all the books and periodicals for the Library. He continued in this position until 1905 when he became Librarian after the death of Dr. Chadwick, a continuous service of thirty-three years.

In 1881, when Dr. Farlow first became a member, the number of volumes was only 11,000. In 1894 when he became Chairman of the Library Committee, the Library contained about 25,000 volumes. In 1905, when he became Librarian, the volumes had increased to 50,000, and today, in 1927, the total number is 145,000.

Dr. Farlow was active in the movement which resulted in the erection of the building in the Fenway which was opened early in 1901.

In 1918 he wrote a history of the Library which is recognized as a classic in its field.

In 1926 he was largely instrumental in providing an adequate celebration of its fiftieth anniversary.

During this period Dr. Farlow has seen the Library grow from small beginnings to the fourth largest medical library in this country with an international reputation.

From 1876, when as a student, he helped Dr. Chadwick in the very beginnings of the Library, later as a friend, co-worker, and again in his official positions he has served the Boston Medical Library faithfully, conscientiously and with ability during the whole period of its existence.

The medical profession and the public are under obligation to Dr. Farlow and his associates for the position which the Boston Medical Library has attained.

RESIGNATION OF DR. WALSH EXECUTIVE SECRETARY OF THE AMERICAN HOSPITAL ASSOCIATION

THE announcement has been made by Dr. William H. Walsh, Executive Secretary of the American Hospital Association, of his resignation as executive secretary, to take effect January 1, 1928. He has been executive secretary of

the Association since February, 1925, succeeding Dr. A. R. Warner who died in 1924. Dr. Walsh is returning to his private practice of hospital consultation, with offices in New York and Chicago.

MASSACHUSETTS PSYCHIATRIC SOCIETY

At the annual meeting of the Massachusetts Psychiatric Society the following officers were elected: President, James V. May, M.D.; Vice-President, Douglas A. Thom, M.D.; Secy. and Treasurer, Winfred Overholser, M.D.; Councilors, Arthur H. Ring, M.D., and Abraham Myerson, M.D.

AWARD OF THE LESLIE DANA GOLD MEDAL

ST. LOUIS, Mo.—The Leslie Dana Gold Medal, awarded annually to the person who has done most for the conservation of vision in the preceding year, was presented Oct. 17 to Dr. Lucien Howe, of Buffalo, New York, by Lewis H. Carris, Managing Director of the National Committee for the Prevention of Blindness. Dr. Howe was selected for this honor by the National Committee in cooperation with the Missouri Association for the Blind through whom the medal is offered annually by Leslie Dana of this city.

In making the presentation, Mr. Carris referred to Dr. Howe as the "Father of Ophthalmia Neonatorum Legislation." Mr. Carris pointed out that ophthalmia neonatorum was for centuries the principal cause of blindness; that up to the time of the organization of a formal movement for the prevention of blindness in the United States 28 per cent. of the children in schools for the blind had lost their sight through this one cause; and that the records of the National Committee show that in recent years reductions of 50 per cent. in the frequency of this disease as a cause of blindness have been brought about over the country at large. In this reduction, Mr. Carris said, "no one has been more responsible than Dr. Howe." Mr. Carris pointed out that a number of the largest cities in the country have gone through an entire year without having a single case of blindness from ophthalmia neonatorum reported among the hundreds of thousands of babies born during this period.

Mr. Carris said that Dr. Howe was responsible for the first law on preventing ophthalmia neonatorum, the Howe Law, passed in 1890 in New York State. Similar laws making it obligatory for midwives, doctors and nurses to report promptly all cases of ophthalmia neonatorum observed and a law requiring the use of prophylactic drops in the eyes of all new born babies have since been enacted in almost every state in the union.

"The observance of these laws," Mr. Carris said, "has notably saved tens of thousands of persons from blindness or seriously defective vision."

"We know Dr. Howe not only as the 'Father of Ophthalmia Neonatorum Legislation,'" Mr. Carris said, "but as the sponsor of research into hereditary blindness; we know him as author of many notable treatises on the eye; and as chairman of a number of most important committees in the American Medical Association's Section on Ophthalmology."

"Dr. Howe's period of service to the country in the conservation of vision extends over more than 50 years, but I must speak of one of his most recent benevolences that is sure to have telling effects on saving sight. This is the establishment at Harvard University of the memorial institution known as the Howe Laboratory of Ophthalmology, of which he is the first director. Dr. Howe, who with his family, has given \$250,000 towards the establishment of this laboratory, will thus perpetuate the work to which he has dedicated himself so untiringly and capably."—*Bulletin of the National Committee for the Prevention of Blindness.*

DR. GEORGE H. BIGELOW SPEAKER AT THE SOMERVILLE ROTARY CLUB

THE Somerville Rotary Club recently gave a luncheon at which the guest speaker was Dr. George H. Bigelow, Commissioner of the Massachusetts Department of Public Health.

Dr. Mongan introduced Commissioner Bigelow, who spoke on Preventive Medicine. Somerville was commended for its care in handling the milk supply. Tuberculosis, diphtheria, typhoid, rabies, and other communicable diseases were discussed. Special reference was made to the attempt on the part of the State to discover children subject to tuberculosis. Dr. Bigelow stated that three-fourths of the State had been examined to date and expressed the hope that the children of Somerville would soon receive attention. The Somerville Medical Society has approved this plan.

That the members of the Club were appreciative of Dr. Bigelow's courtesy was shown by the enthusiasm and applause which followed.

LENGTH OF LIFE IN THE INDUSTRIES

OUR present knowledge indicates that while the average length of life has been increased as a whole, that of the industrial population has shown no relative increase. Hackett, in his "Health Maintenance in Industry," says that the blacksmith dies at the age of 55, and the machinist at 44 years of age, 11 years earlier. The average span of human life of all classes is 58 years.—*Dr. T. F. Abernethy quoted by U. S. Daily.*

CORRESPONDENCE

INDEMNITY INSURANCE

November 4, 1927.

Editor, Boston Medical and Surgical Journal:

There seems to be some misunderstanding about the revision of rates under the new policy issued by the U. S. Fidelity & Guaranty Company. The purpose of the Company in the grouping of different Doctors by specialties was simply to collect an equitable and adequate premium so that they can at least break even. Rates according to the hazard is the only just method of arriving at a proper premium charge. The class is solely for the purpose of ascertaining the correct premium charge and in no way affects the protection given under the policy.

The heading "General Practice" of course includes Obstetrics and the Doctor does not belong under the heading "Gynecology and Obstetrics." A Doctor doing Private Practice and rated in classes 1 or 2 is fully protected for any of the work mentioned in the other classes. If, however, he specializes in classes 3, 4 or 5 it is but fair that he should pay the rate as shown on the rate sheet for his specialty.

We have kept a very careful record of every claim and know the loss ratio for each specialty. The writer has discussed this matter with a great many physicians all over the state and everyone that I have talked with personally agrees that our present classification is a step in the right direction. One Doctor, who has retired from practice, asked us to renew his policy simply to help the cause along. There are undoubtedly certain points that will have to be ironed out, but they will be adjusted in time.

The new policy which is now being issued by this Company is the broadest policy ever issued by any Company. If you will read the insuring clause you will see it states this—

"Covers professional services rendered or which should have been rendered by him and/or any assistant to him, including any partner, physician, dentist, anesthetist, technician, nurse, or any other person, during the term of this policy, and resulting from any claim or suit (including claims or suits involving loss of service or mental anguish) based upon

- a Malpractice, error, negligence or mistake, or
- b Autopsies, inquests or personal restraint, or
- c The dispensing of drugs or medicine, or
- d Arising from any counterclaims or suits brought by the Assured for the collection of fees, provided such damages are claimed under paragraphs a, b, or c:

To DEFEND the Assured without limit of cost in any suit at any time filed within the foregoing specifications."

You will notice also that the Company is willing to issue insurance up to \$50,000/\$100,000.

The writer has advocated for years the appointment of a Committee similar to the one appointed ten years ago by the Massachusetts Dental Society, to work with the Insurance Company, and try and reduce the number of blackmail claims. The Dental Society has stood back of this Company for ten years in such a way that the claims have been materially reduced and the Insurance Company, without extra charge, increased the limit of their policy 50% on November 1 of this year. The Malpractice Committee in the State of Maine has practically eliminated suits in that state by their support of one Company and the education of the Doctors in various lines.

Many Doctors have spoken to me in the last few months and asked me why more Doctors were not insured under this policy. One of them, for example, said this—that he was on the original Committee which investigated this Company in 1921 and recommended to the Council the approval of the policy.

This was approved by the Council at a special meeting on November 9, 1921. On June 7, 1927, a Malpractice Committee was appointed. On October 5, 1927, an Insurance Committee was appointed and both of these Committees unanimously recommended this Company and the revision of rates. Still, a great many of the Doctors do not take advantage of this protection. He says he cannot understand what the reason is. He also said that he has made an investigation of the number of claims which this Company has defended in court and found that they have lost only one court case in six years. Personally, I could not answer this question.

In certain towns where the majority of the doctors are insured with us, suits have practically been eliminated. This shows what coöperation can do and if every town would do the same thing for the next five years the rates could be readjusted to be very much lower than they are now.

At the present time it is not a question of price, but a question of service, and we know that this Company, in spite of the loss ratio for the past six years, is here to give service. The Company has given us the guarantee that if the loss ratio can be reduced premiums will be reduced accordingly. All they want is enough premium to break even.

Many suits have been brought by patients where a perfect functional result was obtained but an anatomical result was not perfect, and some other Doctor has criticised this work. Similar instances have been brought to my attention in a great many cases.

A thorough investigation is immediately made of every claim whether groundless or not. Through this information gathered, and the able defense by their Attorney, the Company has lost but one court case in the past six years.

I might add a note of warning—in case of a threat or a suit, leave everything to the Insurance Company, admit nothing, verbally or in writing, and discuss the matter with no one except a representative of the Insurance Company.

If anyone makes a statement about our policy, or reclassification, or intimates that if a Doctor insures under one class and does work under another class that he would not be covered, ask him to put it in writing, over his signature.

The cheapest article is seldom the best.

We are here to give service and all we ask of you is your coöperation.

If there are any questions please communicate with the writer.

Yours very truly,
GEORGE H. CROSBIE.

79 Milk Street, Boston, Mass.

FOUR THOUSAND YEARS OF PHARMACY

Editor, Boston Medical and Surgical Journal:

There is a new book recently published that I fear my brother physicians may not read or even notice for two reasons; first, from its title, "4000 Years of Pharmacy," and the second, from its almost forbidding bulk, 665 pages. It had been better named, "4000 Years About Medicines," and as to bulk, it is very generously illustrated, having over 60 full page reproductions from title pages of rare old medical works, 125 pages of bibliography and a very complete index; it is better than it looks.

I have no acquaintance with the author, publisher or book store, but not for years have I read a better story of medicine, so valuable a picture of its struggle and so well written, with a joke and a smile from beginning to end. Never more than now have I thoroughly realized how we of today stand on the many shoulders of our forefathers in the profession, nor how intimately bound together are the doctors and the druggists building upward to the light of a clearer science and of a better day. The bedside and

the laboratory are both the sick man's friends. I think the author (who must have a very rare collection of famous old books on medicine) surely had a very jolly time of writing this work and did it for the sheer pleasure of collecting the quaint and curious in medicine. Better yet, this is written by one who ought to be reckoned some authority in such things, viz., the Dean of the Philadelphia College of Pharmacy—Professor Charles H. LaWall of Philadelphia. Perhaps he did it to save himself—for he mentioned that of the 150 separate and particular hells (!) of ancient belief, one was reserved for physicians and one for pharmacists. He tells of the days when the apothecary spent his time collecting fly specks to mix with the seeds of an undefinable plant to complete a prescription for a soothing syrup for crying babies. How Anaximander, 600 B. C., taught organic evolution and held that man had developed from a fish-like ancestor (!!). How the symbol of the serpent as the emblem of medicine dates back at least 4000 years and more. How certain clay from Lemnos, dug up by priests on the sixth day of August and at least six hours after sunrise, had particular antiphlogistine virtue (?). How early, disease was considered a poison, a PHARMAKON, and so the man who found an antidote to counteract it, was called a pharmacist. How a priest was called a deliverer or one who ministered, and more than that, how often all three stood under one hat.

Few doctors I fear will ever get the time to read this book and I wish, in a column or so if I might, give them a taste of it, the flavor from ancient days, curious and instructive to anyone, interpretive of many things we do today and yet never knew the reason why (!) and never had the time to inquire.

Did you ever hear that the game of chess, which had been introduced from India in the early part of the sixth century, became a part of the preparatory training of physicians and probably also of pharmacists? It was even recommended as a method of treatment for the sick! Hospitals and dispensaries were first recorded as established in the city of Bagdad, where physicians were first known to receive a license to practice their art. The word Chemistry is derived from the root word KHEM, the native name of Egypt, a word meaning "black," referring plainly to the black soil of the valley of the Nile, so it well became the "black art" of later ages; and there is a twinkle of wit when he commends Moses' ability to reduce the golden calf to potable condition and so gave the children of Israel the "first gold cure." The healing devices of amulets was more amusing for they contained little papers or formulae worn about the afflicted parts, "written by a holy man—on a Friday—shortly before sunset—with ink containing certain drugs like myrrh and saffron!" The ancients attached great value to what they knew as "Bezoar stones, mineral intestinal concretions occasionally found in our domestic animals (horses and cows) which were carried about the person and worn as preventions of infection and were "rented by the day for large sums or even sold at fabulous prices" to ward off the disease at the time of the plague.

The "doctrine of signatures" was also very interesting—when they professed to find resemblances between the plant and the cause of the disease, or between the plant and the part of the body affected, as liver wort (Hepatica triloba) and heartsease or heart seed (Cardio spernium or balloon vine), heartsease being the pansy plant. Extract of walnuts for wounds in the head "from the many coverings of the convoluted kernel resembling the brain!"

We can scarcely conceive the importance of their most wonderful botanical gardens in all the Mediterranean countries culminating about the sixteenth century in most elaborate institutions cultivating sedulously every herb of any reputation or fame whatever. Their profusely illustrated herbariums, folio size, 500 years before printing, yet even before

the tenth century translated descriptions into Latin from foreign tongues. Yet their remedies were by no means all vegetable or plant, as witness this amusing formula (Celtic) for baldness and its corollary:

"With mice fill an earthen pipkin, stop the mouth with clay and bury in the ground near a fire for a year or more—then beware he who lifts it out of the pit, *have gloves on his hands* lest his fingers—ends the hair come sprouting forth!"

Their "soporific sponge" in use by the Turk, who gave credit of the invention to the Chinese, caused anaesthesia by *inhalations* of aconite, datura and henbane before the thirteenth century! (shades of Morton, Long et al.)

The benefits following the Crusades cannot be measured for they introduced many remedies into Europe (including sugar). At the height of her influence it is estimated that the Venetian traffic in drugs and spices together amounted to over 15,000,000 of dollars annually, some of these importations being of such rarity as to mark their value in weight of silver and even gold! The University of Salerno was the leading educational center in all Europe, about 30 miles southeast of Naples, its medical school was most famous and taught a system of medicine known as "methodism" in vogue at Salerno and antedating that of "humorism." Here *women* as well as men both studied and taught, there anticipating our coeducational institutions. Here was the base hospital of the Crusaders and the only place for a while where dissection of the human body was allowed by law. Here too they seem to have first used the terms grain, scruple and drachm, weights and formulae being given in singsong cadence to better enable the memorizing of them.

Cordova in Spain was one other important medical center, this place about 150 miles north of Gibraltar, the one spot in all Europe where for 1000 years, when the veil and shadow of the Dark Ages hung over all science elsewhere, here without any exaggeration the light still shone! Here were *fifty hospitals* and many famous physicians! Here were many miles of paved and lighted streets when London was without a single street light and all her roads were muddy cart paths!

To anyone visiting Cordova now, it seems almost unbelievable, but the evidence of former splendor is undeniable. Much knowledge in these days, recorded in laborious manuscript, was kept however in *cipher* and so secretly from the public because they were not yet thought fit to know much. One of the early signs of a gracious King or Sovereign was for him to purchase at great expense secret formulae and give them to the public. Caventon of Paris was richer by 10,000 francs as reward for publishing his discovery of quinine, and Sir Hans Sloan by half a million dollars for St. Ignatius bean, etc.

The *distillation* of alcohol (Aqua Ardens) was known from about the early centuries of the Christian era and the making of tinctures naturally followed soon after. But it is less than 150 years ago that Linnaeus originated the first satisfactory classification of plants and a nomenclature became so definite and settled that one man might always know just what plant another man was discussing. We all know that polypharmacy was then rampant, but did we realize that a R "TIERLAC" might contain as many as 300 to 400 ingredients?

Not having any clocks or watches in those days to measure the time, liniments or lotions were ordered and they were applied while repeating a couple of psalms, a "Gloria" or a couple of prayers seven times till sufficient time elapsed to satisfy the physician's wishes.

The subject of fees and prices of medicines, the complaint of doctors furnishing their own medicine and pharmacists prescribing, trade marks, the "Lazarus bells" of lepers, the collected data on Indian

remedies made by Dr. Benjamin Rush, "U-S-N-E-A = moss from the skull of a man who died a violent death," are all in this book!

Then "The Foxglove" carved on the monument of William Withering, M.D., at the Old Church, Edgbarton, England, to tell how digitalis was introduced by him in 1785 (how recent!) How our Ben Franklin peddled drugs himself for a few years and finally established the Pennsylvania Hospital in Philadelphia, the *first institution* of that kind in the New World! Jenner and the vaccination for smallpox, Warburg and his tincture, Walter Reed and his mosquito, all pass in a procession before the reader, and again I repeat we stand on *their* shoulders—and as our Dr. Benjamin Cotting used to say—"may some of us be shoulders for younger men!"

I wish I could present a copy of this book to all my old friends and classmates; next to that, is calling your attention to it for your own instruction and amusement. It is worth while and well worth the price and time.

H. WARREN WHITE, M.D., Harvard 1880.
9 Crawford Street, Grove Hall.

THE ABUSE OF FREE CLINICS

The State Medical Society of Wisconsin
Arthur W. Rogers, M.D., President
Oconomowoc

October 10, 1927.

Editor, Boston Medical and Surgical Journal:

It has been brought to my attention that the BOSTON MEDICAL AND SURGICAL JOURNAL has published an editorial commenting on one of my editorials in the *Wisconsin State Medical Journal*, regarding the abuse of free clinics. I feel quite honored with this attention, and I wish to congratulate the writer on pushing the matter along.

It has become such an abuse in this section of the country that we are endeavoring, and in some cases have put it over, to change the name "Free Clinic" to "Charity Clinic," which does not set quite so well with a good many people who come to these clinics for care and treatment; and at the same time, require everyone who comes for treatment to sign a paper stating that he is unable to pay for the treatment sought.

The doctor has been the goat so long that he seems almost willing to accept the proposition without making any effort in his own behalf. Nothing of importance can be accomplished along this line, I fear, without concerted effort.

Very truly yours,

ARTHUR W. ROGERS.

ARTICLES ACCEPTED BY THE AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

535 North Dearborn Street, Chicago, Ill.,

October 29, 1927.

Editor, Boston Medical and Surgical Journal:

In addition to the articles enumerated in our letter of September 26 the following have been accepted:

DeFree Company

Sulpharsphenamine—DeFree

Sulpharsphenamine—DeFree, 0.1 gm. ampules
Sulpharsphenamine—DeFree, 0.15 gm. ampules
Sulpharsphenamine—DeFree, 0.2 gm. ampules
Sulpharsphenamine—DeFree, 0.3 gm. ampules
Sulpharsphenamine—DeFree, 0.4 gm. ampules
Sulpharsphenamine—DeFree, 0.45 gm. ampules
Sulpharsphenamine—DeFree, 0.6 gm. ampules
Sulpharsphenamine—DeFree, 1.0 gm. ampules
Sulpharsphenamine—DeFree, 3.0 gm. ampules

Gilliland Laboratories, Inc.

Typhoid Vaccine, 30 ampule package

Eli Lilly & Co.

Ephedrine—Lilly

Inhalant Ephedrine Compound—Lilly

Parke, Davis & Co.

Erysipelas Streptococcus Antitoxin (Refined and Concentrated)—P. D. & Co.

E. R. Squibb & Sons

Scarlet Fever Streptococcus Toxin—Squibb, 5 vial package (500, 2,000, 8,000, 25,000, 60,000 skin test doses)

Scarlet Fever Streptococcus Toxin—Squibb, 50 vial package (500, 2,000, 8,000, 25,000, 60,000 skin test doses)

Winthrop Chemical Company

Mesuroil

Emulsion Mesuroil, 20 per cent.

Nonproprietary Articles

Ephedrine (base)

Yours truly,

W. A. PUCKNER, *Secretary.*

Council on Pharmacy and Chemistry.

NEWS ITEMS

ELECTION OF DR. OVERHOLSER TO THE NATIONAL COMMITTEE FOR MENTAL HYGIENE

—Dr. Winfred Overholser, assistant professor of psychiatry at Boston University's School of Medicine, and director of the State Department of Mental Diseases Division for the Examination of Prisoners, has been elected a member of the National Committee for Mental Hygiene.

Dr. Overholser was scheduled to address the National Crime Commission at Washington on November 3.

FUNDS FOR THE MEDICAL SCHOOL OF HOWARD UNIVERSITY—Negroes donated \$150,259 to the \$1,000,000 fund which has been raised for Howard University, Washington, to be devoted to the purpose of the medical school. Fifty-one negroes gave amounts ranging from one thousand to ten thousand dollars. The names of these fifty-one donors will be placed on a tablet in the new medical school building.

SAYS EPIDEMICS DECREASE—The progress of medical science in the field of prevention was described to the French Medical Congress by Professor Tisserand of the University of Paris Faculty of Medicine as advancing rapidly toward the extinction of epidemics.

This is exemplified, he asserted, in colonial sanitation and in the work of doctors in the World War. "The first war ever fought in which the casualties of disease did not exceed the victims of the enemies' fire."

During the war smallpox was almost negligible, while typhoid fever was successfully checked by inoculations, he declared, though admitting that influenza was the signal exception in escaping the bonds of science.

Thirty representatives of foreign medical institutes are attending the congress, which has drawn the largest number of French delegates ever to attend.—*New York Times.*

NEWS FROM THE BOSTON UNIVERSITY SCHOOL OF MEDICINE—Appointment of ten prominent Greater Boston physicians as faculty members at Boston University's School of Medicine has been announced by President Daniel L. Marsh of the uni-

versity and Dean Alexander S. Begg of the school. All of the ten have been named to the rank of assistant.

Those appointed are Doctors Martin Crotty, Boston, obstetrics; Sidney C. Dalrymple, Brookline, pathology; Frank L. Jones, West Somerville, laryngology; William L. Kreiger, Dorchester, medicine; George Levene, Boston, radiology; Charles H. Merrill, Beverly, otology; Charles E. Montague, Wakefield, medicine; Leroy E. Parkins, Boston, diseases of the chest; Harold W. Ripley, Braintree, otology; and Ernest Springer, Boston, surgery.

Dr. Timothy Leary, Suffolk County medical examiner, was the speaker November 1 before the students of the School of Medicine at their regular assembly. He told of his experiences as medical examiner.

Freshman and senior elections at the School of Medicine have been completed. The seniors have named as their officers John R. Malloy of New Haven, Conn., president; Moses Berkowitz of Brooklyn, N. Y., vice-president; and Mrs. R. R. Poole of Ithaca, N. Y., secretary-treasurer.

Norris Robertson of Keene, N. H., was elected president of the freshmen. Raymond Harpin of Lynn is vice-president, and the office of secretary-treasurer is still to be filled.

MISS LEAVITT'S APPOINTMENT AS HEAD MATRON OF THE PRENDERGAST PREVENTORIUM—Miss Dorothy Leavitt, R.N., will succeed Miss Ruth Alger as head matron of the Prendergast Preventorium.

Miss Leavitt is a graduate of the Massachusetts General Hospital Training School for Nurses. She was formerly assistant director of the home hygiene department of the Boston Metropolitan Chapter of the American Red Cross.

It is expected that increased accommodations will provide for 40 more children.

She will be in charge of the summer camp which accommodates 120 boys and girls.

OFFICERS OF THE DELTA OMEGA—Officers of Delta Omega, the national honorary public health society, were elected on October 19, 1927, as follows: President, C. E. A. Winslow, Dr.P.H., of the Yale School of Medicine; vice-president, Major Edgar E. Hume, M.D., Dr.P.H.; secretary-treasurer, James A. Tobey, Dr.P.H., of New York. Chapters of the society are now established at the Johns Hopkins School of Hygiene and Public Health, the Harvard School of Public Health, the Massachusetts Institute of Technology, the Yale School of Medicine, the University of Michigan, and the University of California.

A WARNING TO DOCTORS WHO MAY VIOLATE THE PROHIBITION LAW—At a meeting of the Massachusetts Society of Examining Physicians, Dr. C. P. Sylvester, chairman of the Board of Registration in Medicine, informed the society that those doctors who may violate the laws relating to the prescribing of alcoholic liquors will be deprived of the right to practice in this State.

This statement was made after the society had listened to discussions relating to the diagnosis and treatment of alcoholism.

PREVENTIVE MEDICINE THE SCIENCE OF THE FUTURE—In a statement made public by the Bureau of Education Dr. N. P. Colwell is quoted as stating that "the future of medical education in the United States promises that physicians will render service by keeping people well rather than merely curing them when they are sick." He further states that "the public must recognize more than ever not only the importance of knowledge and skill on the part of the physician, but also the absolute danger from the various nonmedical practitioners who nowadays are so commonly assuming the function of a

physician and are attempting to use the highly technical methods of treatment, including even dangerous surgical operations—without first securing the physician's training and skill. One does not send a valuable watch to a mechanic or a blacksmith for examination or repair. The highly complicated human machine, with its many intricate life processes and delicate vital structures, should be entrusted only to one who is skilled in the use of modern methods of treatment and who knows when and how to use them. Such a training is now available in all our private or State university medical schools and is recognized in all countries of the world as essential for the efficient care of sick and injured people."

NOTICES

AMERICAN MEDICAL ASSOCIATION OF BERLIN

DEAR SIR:

The numbers of Americans coming to Berlin for the study of medicine and for postgraduate work in the clinics and laboratories have prompted the reorganization of the American Medical Association of Berlin, which formerly rendered such valuable service to American medical men, in order that some competent central bureau of information be available. The American Medical Association of Berlin gladly furnishes information on any subject connected with the study of medicine and allied sciences in Berlin, including cost of living, etc.

Yours truly,

AMERICAN MEDICAL ASSOCIATION OF BERLIN,

By A. A. Goldbloom.

Berlin NW6, Luisenplatz 2-4.

REMOVALS

DR. GEORGE E. CAISSE has moved to 299 Washington St., Hartford, Connecticut.

DR. H. R. RECORD has moved his office to 27 Temple St., Quincy.

DR. ALBERT MARSH announces his removal from Hill Crest, Southboro to Old Natick Inn, South Natick, Mass.

CORRECTION

The address of Dr. Joseph E. Sternberg was given incorrectly in our issue of November 3 under the heading "Changes in Faculty Appointments at Boston University School of Medicine." The address should read 100 Boylston St., instead of 520 Commonwealth Ave.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Associate Pathologist, \$3,000
Assistant Pathologist, \$2,400

Applications for associate and assistant pathologists must be on file with the Civil Service Commission at Washington, D. C., not later than December 6.

The examinations are to fill vacancies in the Bureau of Mines, Department of Commerce, for duty in

Washington, D. C., or in the field. A vacancy exists at Pittsburgh, Pa.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the United States Civil Service Board of Examiners at the postoffice or custom house in any city.

SELECTION OF PROFESSOR OF CHEMISTRY, HYGIENIC LABORATORY, PUBLIC HEALTH SERVICE, TREASURY DEPARTMENT

Applications Must Be on File with the Civil Service Commission at Washington, D. C., Not Later Than November 29, 1927

The United States Civil Service Commission states that the position of Professor of Chemistry at the Hygienic Laboratory, Public Health Service, Treasury Department, is vacant, and that, in view of the importance of the position in the field of medical, chemical, and public health research, and to insure the appointment of a thoroughly qualified man for the work, an unusual method of competition will be followed to fill the vacancy. Instead of the usual form of civil service examination, the qualifications of candidates will be passed upon by a special board of examiners, composed of Dr. G. W. McCoy, Director of Hygienic Laboratory; Dr. Charles L. Parsons, Chemical Engineer, Mills Building, Washington, D. C.; Dr. Julius Stieglitz, Head of Department of Chemistry, University of Chicago, Chicago, Ill.; Dr. Charles H. Herty, Chemical Foundation, New York City; Dr. Reid Hunt, Harvard Medical School, Boston, Mass.; and A. S. Ernest, Examiner of the United States Civil Service Commission, who will act as chairman of the committee. For the purposes of this examination all of these men will be examiners of the Civil Service Commission.

The duties of this position will consist of planning, conducting and supervising researches in the field of chemistry as it relates to the public health. The incumbent will have full charge, as chief, of the Division of Chemistry and as such will be responsible for the administration, personnel, and scientific work of that division.

The entrance salary of this position is \$6,000 a year. Promotion may be made without change in assignment up to \$7,000.

UNITED STATES PUBLIC HEALTH SERVICE

CHRONOLOGICAL LIST OF CHANGES OF DUTIES AND STAT- TIONS OF COMMISSIONED AND OTHER OFFICERS OF THE UNITED STATES PUBLIC HEALTH SERVICE

OCTOBER 5, 1927

Senior Surgeon M. H. Foster. Directed to proceed from Chicago, Ill., to Minneapolis, Minn., and return, to attend a meeting of the American Hospital Association to be held October 10-14. September 27, 1927.

Surgeon H. McG. Robertson. Relieved from duty at Ellis Island, N. Y., and directed to proceed to Washington, D. C., and report to the Bureau for duty. September 27, 1927.

Surgeon F. M. Paget. Relieved from duty at Ellis Island, N. Y., and assigned as medical officer in charge of United States Quarantine Station, Mobile, Ala. September 28, 1927.

Surgeon C. H. Waring. Relieved from duty at Mobile, Ala., and directed to proceed to Washington, D. C., and report to the Bureau for assignment to duty. September 28, 1927.

Sanitary Engineer L. C. Frank. Directed to proceed from Montgomery, Ala., to Oxford, Miss., and return, to attend the meeting of the University Institute on Mississippi Affairs to be held October 6. September 28, 1927.

Associate Sanitary Engineer Leonard Greenburg. Directed to proceed from New Haven, Conn., to Wash-

ington, D. C., October 3, and return, in connection with ventilation studies. September 28, 1927.

Consultant F. I. Cooper. Directed to proceed from Boston, Mass., to Washington, D. C., October 3, and return, in connection with ventilation studies. September 28, 1927.

Consultant A. W. Feldman. Directed to proceed from New York City to Washington, D. C., and return, October 3, in connection with ventilation studies. September 28, 1927.

Consultant D. D. Kimball. Directed to proceed from New York City to Washington, D. C., October 3, and return, in connection with ventilation studies. September 28, 1927.

Consultant F. R. Still. Directed to proceed from New York City to Washington, D. C., October 3, and return, in connection with ventilation studies. September 28, 1927.

Consultant A. C. Willard. Directed to proceed from Urbana, Ill., to Washington, D. C., October 3, and return, in connection with ventilation studies. September 28, 1927.

Consultant C. E. A. Winslow. Directed to proceed from New Haven, Conn., to Washington, D. C., October 3, and return, in connection with ventilation studies. September 28, 1927.

Surgeon W. H. Frost. Directed to proceed from Baltimore, Md., to Cincinnati, Ohio, October 13, and return, in connection with stream pollution investigations. September 29, 1927.

Consultant S. A. Forbes. Directed to proceed from Urbana, Ill., to Cincinnati, Ohio, October 15, and return, in connection with stream pollution investigations. September 29, 1927.

Consultant R. E. Hall. Directed to proceed from New York City to Washington, D. C., October 3, and return, in connection with ventilation studies. September 29, 1927.

Consultant E. O. Jordan. Directed to proceed from Chicago, Ill., to Cincinnati, Ohio, October 15, and return, in connection with stream pollution investigations. September 29, 1927.

Consultant Langdon Pearse. Directed to proceed from Chicago, Ill., to Cincinnati, Ohio, October 15, and return, in connection with stream pollution investigations. September 29, 1927.

Consultant E. B. Phelps. Directed to proceed from New York City to Cincinnati, Ohio, October 15, and return, in connection with stream pollution investigations. September 29, 1927.

Consultant L. J. Reed. Directed to proceed from Baltimore, Md., to Cincinnati, Ohio, October 15, and return, in connection with stream pollution investigations. September 29, 1927.

Surgeon P. D. Mossman. Directed to proceed from Rolla, Mo., to Chicago, Ill., and return, to attend the meeting of the National Committee for the Prevention of Blindness to be held October 13-15. September 30, 1927.

Acting Assistant Surgeon R. E. Bodet. Directed to proceed from New Orleans, La., to Quarantine, La., and return, for temporary duty. September 30, 1927.

Acting Assistant Surgeon M. A. D'Alesandro. Directed to proceed from Philadelphia, Pa., to Baltimore, Md., and return, for the purpose of accompanying a patient to U. S. M. H. No. 1. September 30, 1927.

Acting Assistant Surgeon Fleetwood Gruver. Directed to proceed from Galveston, Texas, to Freeport, Texas, and return, for temporary duty. September 30, 1927.

Surgeon G. A. Kempf. Directed to proceed from Washington, D. C., to Hagerstown, Md., October 4, and return, in connection with field investigations of child hygiene. October 1, 1927.

Acting Assistant Surgeon A. V. Hardy. Directed to proceed from Iowa City, Iowa, to such places in the State of Iowa as may be necessary, and return,

during the remainder of the fiscal year, in connection with the epidemiological study of Malta fever. October 1, 1927.

Special Consultant J. W. Ellms. Directed to proceed from Cleveland, Ohio, to Cincinnati, Ohio, October 15, and return, in connection with stream pollution investigations. October 1, 1927.

Surgeon C. R. Eskey. Directed to proceed from Manila, P. I., to Calcutta, Ind., and return, to attend the Seventh Congress of the Far Eastern Association of Tropical Medicine to be held December 5-22. October 3, 1927.

Assistant Surgeon F. R. Brunot. Relieved from duty at Manila, P. I., and assigned to duty at Hongkong, China. October 3, 1927.

Assistant Surgeon F. C. Stewart. Relieved from duty at Hongkong, China, and assigned to duty at Manila, P. I. October 3, 1927.

Senior Surgeon S. B. Grubbs. Authorized to proceed from Chicago, Ill., to Faribault, Minn., and return, to investigate a claim against the United States Employees' Compensation Commission. October 4, 1927.

Surgeon L. L. Williams, Jr. Directed to proceed from Richmond, Va., to Aberdeen, Md., October 6, and return, in connection with malaria investigations. Also directed to proceed from Richmond, Va., to Atlantic City, N. J., October 17, and return, in connection with malaria investigations. October 4, 1927.

Assistant Surgeon E. B. Archer. Directed to proceed from Ellis Island, N. Y., to Vineyard Haven, Mass., and assume temporary charge of U. S. M. H. No. 22. October 4, 1927.

Assistant Surgeon G. J. Van Beeck. Relieved from temporary duty at Vineyard Haven, Mass., and directed to return to station at Ellis Island, N. Y. October 4, 1927.

Official:

C. C. PIERCE, *Acting Surgeon General.*

LECTURE COURSE IN PHYSIOTHERAPY

Dr. Noble M. Eberhart will deliver a course of lectures in Physiotherapy with special reference to advanced technique, at the City Hospital, Worcester, Mass., from November 21 to 26. The opening lecture will be given Monday, November 21, at 8 P. M.

REPORTS AND NOTICES OF MEETINGS

BERKSHIRE DISTRICT MEDICAL SOCIETY

THE Berkshire District Medical Society will hold an unusual meeting for the discussion of Cancer at the Hotel Wendell, Pittsfield, on Thursday, November 10, 1927.

At 4 o'clock p. m. there will be a demonstration clinic at the Hillcrest Hospital, Pittsfield, at which Dr. Bloodgood will officiate.

Dinner will be served at the Wendell at 6:30 p. m.

Directly after the dinner, Joseph C. Bloodgood, M.D., of Johns Hopkins Hospital will speak on the subject of Cancer, and Dr. George Bigelow, M.D., Director of Public Health in Massachusetts, will tell us of the State Program Against Cancer.

Meeting will then be open for general discussion.

This meeting will be open to nurses, public

health workers, and lay people interested in Cancer.

If you are not present your nurse or patient may miss you.

T. P. HENNELLY, M.D., *President.*

NEW ENGLAND PEDIATRIC SOCIETY

THERE will be a meeting of the New England Pediatric Society at the Boston Medical Library, on Friday, November 11, 1927, at 8:15 P. M.

The following paper will be read:

Diagnosis and Treatment of Poliomyelitis, E. H. LUTHER, M.D.

Light refreshments will be served after the meeting.

J. HERBERT YOUNG, M.D., *President.*

THOMAS H. LANMAN, M.D., *Secretary.*

THE EIGHTY-FIRST ANNIVERSARY MEETING OF THE NEW YORK ACADEMY OF MEDICINE

THE meeting will be held on Thursday evening, November seventeenth, at Fifth Avenue and One Hundred and Third Street, at eight-thirty o'clock. The Anniversary Discourse will be delivered by Professor John Dewey on "Mind and Body."

MEETING OF THE MASSACHUSETTS SOCIETY FOR MENTAL HYGIENE

THE annual meeting and luncheon of the Massachusetts Society for Mental Hygiene will be held at the Twentieth Century Club, 3 Joy Street, Boston, on Wednesday, November 16, at one o'clock.

The speakers are Mr. Richard A. Feiss, a prominent consulting industrial engineer and ex-president of the Taylor Society, who will discuss "The Mental Hygiene of the Management," and Dr. Payson Smith, Commissioner of Education of Massachusetts. His subject is "The Obligations of the School to the Mental Health of the Child".

MEETING OF THE MASSACHUSETTS ASSOCIATION OF BOARDS OF HEALTH, HOTEL BELLEVUE, OCTOBER 28, 1927

ONE hundred and twenty-two representatives of different health agencies of the state met at the above-mentioned place and date to listen to a discussion of the Poliomyelitis problem.

After the luncheon and routine business had been disposed of, the President read a letter from Governor Fuller regretting his inability to be present and complimenting the Society on the work which had been done and the efforts which are being made to elucidate the problem of Infantile Paralysis. He extended his best

wishes and assured the Association of his coöperation in all public health measures.

Dr. W. Lloyd Aycock, Member of the Harvard Infantile Commission, Director of the Research Laboratory Vermont State Health Department, presented the facts relating to Infantile Paralysis. He outlined the essential features upon which early diagnosis depends, such as fever (which is usually not high, running from 101 to 102) headache, vomiting, twitching of the muscles of arms and legs, backache and later loss of voluntary motion. The general appearance of the patient was indicative of prostration, apprehension and one very significant symptom, a disproportionate rapidity of pulse, this pulse rate usually being 140 or more. The reflexes are usually irregular and not especially significant. One of the most important pre-paralytic symptoms is found in the moderate rigidity of neck and spine not amounting to opisthotonus. This rigidity seems like nature's effort to protect the spinal column from bending. Spinal puncture shows an increased cell count in the spinal fluid. Diagnosis in the pre-paralytic stage can usually be made if the observer is reasonably careful to elicit all the facts. The important problem in dealing with these cases is to prevent the development of paralysis. A certain amount of confidence has been established by the use of blood serum from convalescent cases which seems to neutralize the virus, but the evidence is not wholly conclusive at the present time. The after treatment is particularly an orthopedic problem. As far as prevention is concerned, one must study the mode of spread and possible causes. There are two different types of epidemics, one the explosive and another which is milder and which develops more gradually. Dr. Aycock brought out his suspicion with reference to milk as a possible common mode of spread of the disease and stated that some outbreaks had been traced to that agent. It may be necessary to take advantage of indirect observation because of lack of definite demonstrations of the causes of the dissemination of the disease and a strong inferential evidence may be obtained in this way. It has been found that the distribution is very much like that of measles and one reason why it attacks young people more generally is that adults have probably become immune by some previous mild infection just as adults are immune to measles because of previous experience with the disease. In a somewhat similar way the general problems are like those with diphtheria. In all probability those who do not have the disease when exposed are like the people who are immune to diphtheria and measles. The route of the infection is possibly through the upper respiratory tract as shown by experiments on monkeys where repeated applications of the virus upon mucous membranes of the nose have brought about the development of the disease

although monkeys are rather resistant as shown by the fact that single applications have not been of sufficient potency to bring about the development of the disease.

Dr. Aycock was followed by Dr. Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard University, who complimented Dr. Aycock for the clarity and logic of his presentation of the problems involved in dealing with this disease. He felt that many important features pertaining to the disease and its spread were still unknown but there was reasonable expectation of solving its mysteries in the near future. The methods of dealing with this epidemic have given evidence of the most cordial cooperation between the state and local authorities which is very encouraging. As a comparison he spoke of a recent visit to a section of the Far East where typhoid fever and syphilis affected a very large proportion of the population. The conditions in this locality were particularly unhygienic, and in conference with local officials, he suggested a municipal house-cleaning campaign. So far as syphilis is concerned its dissemination in this region is probably very generally through innocent channels and resulted from crowded conditions and close association of the inhabitants and when he suggested the wisdom of protective measures the official told him that it was unwise because everybody had to have it and it was better to have it in this world than in the next.

Returning to Poliomyelitis Dr. Rosenau said it was a very old disease although there was no history of outbreaks comparable with the present time. Speaking of the incubation period he noted that some observers claimed that it was extremely short (from one to three days) and that the extension was from one person directly to another. It may be, however, that the almost simultaneous development of the disease in a given family is not due to the extension from one person to another but rather to a simultaneous infection. The incubation period may be as long as a week or more. A definite feature of the disease is its periodicity, for about every three years we have an increased number of cases which, after having reached the peak, gradually decline for two or three years and again recurrence takes place very much like the periodicity of measles. So far as immunity is concerned, one attack makes a person immune for life and immunity of places as well as persons seems to have been established. The disease seems to run itself out in certain localities. So far as transmission is concerned, we have no knowledge comparable with the facts relating to diphtheria, typhoid fever and similar diseases so that we must be conservative in our opinions since some of the evidence is very conflicting. The disease is probably spread by more than one method and while milk might be a vehicle he felt that it was not the only method of spread.

We must honestly say that to a certain extent we are groping in the dark so far as any known method of prevention is concerned.

Mr. George T. Lennon, Agent, Haverhill Board of Health, read a very instructive paper giving the facts which have been observed and correlated and setting forth the important features of the epidemic in Haverhill. This paper has been submitted to the JOURNAL and will be published.

Dr. C. L. Seamman, Deputy State Health Commissioner, stated that nine hundred and sixty-five cases had been reported in this epidemic which is the largest number since 1916 when we had about nineteen hundred cases. It has been observed in epidemics that the age grouping in urban centres in the majority of cases is under five years whereas in suburban sections the average age is higher. Dr. Seamman paid tribute to the excellent work that is being done by local organizations and answered several questions which were put from the floor.

The papers and discussions were of unusual interest and the Association should be complimented for this very instructive program.

COMBINED PEDIATRIC MEETING

THE annual combined meeting of the New England Pediatric Society, the Philadelphia Pediatric Society and the Section of Pediatrics of the New York Academy of Medicine was held in New York under the auspices of the Academy of Medicine on October 29, with about 200 members of the three societies attending. The meeting was opened at 9:30 A. M. in the new pediatric pavilion of Bellevue Hospital under the direction of Dr. Charles Hendee Smith, who described the physical layout and equipment of the wards, with the three bed moveable cubicle units which have proven so satisfactory. Dr. Smith also demonstrated the sleeping bag in use in the wards and described the unit staff organization, under which all staff members serve both in Out-Patient Department and House.

The protocol of a case of convulsions, blindness and deafness with normal eye grounds and ears was then read. This case was observed for a year, and autopsied at death. The brain showed increased myelin, especially in the gray matter, with so great an increase of glia that the nerve cells were almost crowded out. The process apparently began in the occiput, finally causing blindness and involving the pyramid and cortex, the latter being responsible for the convulsions. Although this case resembled Schilder's disease in some respects, no diagnosis could be made.

The first paper was by Dr. John D. Lyttle, on nephritis in children. Dr. Lyttle first outlined the usual classification of nephritis in children.

(1) Acute glomerular nephritis (hemorrhagic)

(a) Benign (focal embolic or non-embolic glomerulitis)

(b) Severe (diffuse glomerulitis)

(2) Acute tubular nephritis (exudative)

(3) Acute diffuse glomerulo-tubular nephritis. The prognosis is better in acute glomerular nephritis on account of the liability to recurrence and the susceptibility to infection in the acute tubular type (nephrosis).

Dr. Harry Bakwin then talked on the factors influencing the calcium level in the blood serum of infants with tetany. Infantile tetany is not always associated with rickets; rickets is unusual in tetanic infants under four months of age. Tetany and rickets are due to different factors, but factors often occurring together.

The factors producing tetany are prenatal, environmental and constitutional. Tetany is occasionally encountered at birth with a low serum calcium, although we do not know what the prenatal factors are. Environmental factors depend on seasonal variation, ultraviolet radiation and infection. Cod liver oil is not generally effective on the serum calcium as it is on phosphorus. Irradiated cholesterol is also ineffective. The constitutional factors depend on sex, race and body build and are very important. In a series of 164 cases the sex ratio of boys to girls was 2-1. After 8 months, the ratio diminishes.

A case of syphilis with obstructive jaundice was then shown and three cases of nitro benzene poisoning were described, one due to fumes from a shoe dye and two to an insecticide.

Following an inspection of the pavilion the meeting adjourned to the Rockefeller Institute, where Dr. D. D. Van Slyke demonstrated gasometric micromethods for clinical analysis. There are not only volumetric and colorimetric indirect methods of analysis, but also the method by which the substance is converted into a gas and measured by the Van Slyke apparatus. There are several methods of gasometric analysis.

(1) Carbon dioxide methods

(a) bicarbonate of blood

(b) oxidation of oxalic acid with potassium permanganate

(c) conversion of urea by urease to carbon dioxide and ammonia. One method of measurement is by extracting the gases by a vacuum; another by measuring their pressure in millimeters of mercury.

(2) Oxygen methods

(a) saturation of hemoglobin with air and determination of the oxygen content

(b) determination of methemoglobin by its reduction to hemoglobin.

(3) Carbon monoxide methods.

(4) Ammonia method, by hyperbromide solution.

(5) Methods dependent on oxidation of hydrozene, by producing pure nitrogen gas.

The second paper was by Dr. T. M. Rivers on the etiology, pathology and prevention of

measles. Dr. Rivers' paper was in the main an analysis of the various theories on measles. Experimental work on the transmissibility of measles was cited. Tunnicliff's diplococcus was mentioned, and the work of Mallory and Medlar on the histology, with their demonstration of the upper corium as the site of the initial injury in the skin. No pathognomonic cellular reaction has yet been observed. The essential and important differences between scarlet fever and measles were mentioned. All reports leave us in much confusion concerning the problem of measles, but the majority of the evidence, according to Dr. Rivers, supports the theory that the etiologic agent is a filterable virus.

Dr. Alexis Carrel brought the morning session to a close with his really wonderful cinematographic studies of normal and malignant cells, taken from living tissue cultures. Luncheon was served at the Institute.

In the afternoon at the New York Academy of Medicine, Drs. Stafford McLean and Rustin McIntosh showed a large series of X-rays taken in healing scurvy cases, covering a period of time from the admission of the patients to 90 weeks after in one case. Eighty-five per cent. of the cases showed the calcified epiphyseal line and the typical scurvy line of rarification back of the epiphysis. The centres of ossification showed at the periphery increase in density and broadening of the margin, with the centres showing an area of rarification. The epiphyses may be separated. Spur formation at the epiphysis as increased calcification begins is considered an early evidence of healing.

Dr. Haven Emerson spoke of seasonal variation of growth in children, his conclusions being the result of studies made in Toronto, New York and Honolulu. Dr. Emerson feels that the term "seasonal variation," as first used by Professor W. T. Porter is unwarranted, since failures to gain at certain seasons are not normally physiological but rather due to sickness or other adverse conditions.

Professor Bela Schick spoke of certain aspects of tuberculosis in infancy, and Dr. James R. Wilson read a paper on the anatomic lesion of so-called pyelitis in infancy, based on work done in conjunction with Dr. Oscar M. Schloss. According to this belief, as borne out by a number of post-mortem examinations, pyuria may be due to a suppurative process in the cortex of the kidney, and is a suppurative nephritis rather than an infection of the pelvis.

The meeting ended with a dinner at the Academy at which the address of welcome was given by Dr. W. R. May, Chairman of the Section. After the dinner, Professor Harlow Shapley, Director of the Harvard Astronomical Observatory, gave an illustrated talk on the evolution of stars.

MEETING OF THE NORTHERN INTER-CITY GROUP OF HEALTH WORKERS

ON Thursday evening, Oct. 27, a northern inter-city group of health workers met in City Hall, Malden, at the call of Dr. Carroll C. Burpee, chairman of the Malden health department. Besides Malden, there were representatives, in some cases as many as three, of Arlington, Everett, Medford, Melrose, Revere, Somerville, Stoneham, Wakefield and Winchester, in all about thirty in number.

In calling the meeting to order Dr. Burpee stated that such a gathering had been his dream for a number of years. He emphasized the need of conferences of the kind, "for there is no boundary line in health administration between related cities". He expressed the hope that this might be but the beginning of many such meetings, in which the personal contact of health officers and their assistants and the interchange of experiences might prove of benefit to all. This idea was towards the close of the meeting developed into action by the vote to authorize the chairman to name a committee to consider and outline the organization of a "Suburban Health Officers North".

There were three speakers on the program. Dr. E. A. Lane, state district health officer for this section, whose subject was "Diphtheria," Dr. Eliot H. Luther, of the Harvard Infantile Paralysis Commission, whose topic was with reference to present knowledge of this disease, and Mr. John Ritchie of Malden, who had no definite title assigned him.

Dr. Lane's story was directed particularly to health officers and school officials. With a knowledge of the nature of the disease and the means of its spread, more complete than with most of the communicable diseases, it would seem as if more activity in means for prevention should be developed; "Diphtheria control should be better," he said.

Dr. Lane emphasized the need of educational work, and considered this to be an important field for the health department. One line of this education should be to spur up physicians to give anti-toxin without waiting for the laboratory report. The new general official program is different in some respects from the old. Formerly it was the idea to create a public excitement, get a large number of children to be treated, and then practically drop the work till some later period of activity. It is now believed to be better to continue routine work year after year. In schools, having cleared up the existing group, the entering classes are to be cleared up as they come.

The speaker characterized the Schick test for children below ten years of age as "a waste of time". So large a ratio of little ones react to it that it seems better to proceed with inoculation at once. The importance of keeping records was emphasized and need of standard forms for

this. The State Department of Public Health is preparing such forms at the present time. There is also need of cooperation between the school department and the local health officers, for in many instances the board has practically no information about the immunizing work in the schools.

In discussion, Dr. W. M. McBain, of the Malden board, noted how in some cases it is difficult to interest a school committee in health work, especially if members happen to be Christian Scientists or supporters of the Medical Liberty League. He outlined some of the good work that had been done in the Malden schools. He commented on the seriousness of laryngeal diphtheria and urged physicians to consider for a while that a case of croup, with elevation of temperature, might possibly be diphtheria. Dr. C. P. Holden, chairman of the board of health of Melrose, spoke briefly about the diphtheria work in the schools of his city.

Dr. Luther gave in effect the experiences of the physicians of his commission during the present outbreak of infantile paralysis. The disease cannot be outlined as clearly as can diphtheria, nor can means of control be so definitely stated. It is one of the most dreaded of maladies, which apart from the paralysis would be minor. The distribution seems to be by a filterable virus, killed at the temperature of Pasteurization, which may most readily be obtained from the spinal column of those who have succumbed to the disease. Very little is known of the mode of spread, but a few related cases suggest that it is sometimes milk-borne. Further than this it seems unlikely that it is due to an intermediate host. The age distribution resembles that in measles and diphtheria, and the suggestion here is that the virus is widely distributed. It seems reasonable to insist on pasteurization of milk and the safeguarding of food.

Dr. Luther spoke of the work of the Commission, sketched the diagnosis and treatment, noted that the fever may be so mild for the two or three days preceding paralysis as to be overlooked and in non-epidemic years quite likely to be unnoticed. He spoke of and demonstrated the feature of the rigidity of the back. Lumbar puncture will diagnose the condition. It is impossible to predict the severity of the paralysis. Certain demonstrations with serum against a control of untreated cases give hope in this direction. The speaker stated that the effect of the disease is a dead cell, and treatment must be given before the cell dies. He therefore urged earliest possible diagnosis, and greatest care in observing the slightest suspicious symptoms. Physicians present asked a good many technical questions.

The hour being late, Mr. Ritchie made no extended remarks, merely emphasizing the value of meetings of the kind, and noting two or three instances in other associations where beneficial results had followed.

HARVARD MEDICAL SOCIETY

A CLINIC AND DISCUSSION OF CERTAIN EPIDEMICS

THE Harvard Medical Society met on Tuesday evening, October 25, 1927, at 8:15 in the Peter Bent Brigham Hospital. Two cases were presented and Dr. C. L. Connor gave a resumé of the recent typhoid epidemic in Montreal. Dr. Henry Christian then spoke on a water-borne epidemic of typhoid fever in Salem, Ohio.

Dr. Barr presented the first case. The patient showed several anomalies, probably congenital, and an anemia, the cause of which was not definitely ascertained. The patient, a man of 62, entered the hospital three weeks ago with indigestion, marked loss of weight and a sense of pressure in the epigastrium. His family and marital history were essentially negative, while his past history of any importance was 2-3 epileptiform seizures some 30 years ago.

His present illness dates back to 1923 with distress in the right abdomen. Subsequent trouble, diarrhoea and vomiting, sent him to a doctor who diagnosed by X-ray diaphragmatic hernia of the stomach and diverticulitis of the colon. He refused to enter a hospital until forced by increasing weakness and lack of appetite. He was troubled by nocturia and frequency.

Clinical examination at the hospital showed a fluctuating white count from 6-8000 and a red count of 2,600,000 of normal differential count. Dr. Murphy felt the smears to be compatible with chronic blood loss without marked regenerative power. The urine showed a trace of albumen and a few red and white blood cells. There were no casts and no gross hematuria. Stools were negative. Gastric analysis revealed free HCl. Pthalein was rather low, and a two-hour renal function test revealed some fixation of specific gravity. Cystoscopy showed some infection of the bladder and several diverticulae. X-ray showed a large diaphragmatic hernia of the stomach and large bowel into the thoracic cavity directly behind the heart.

The patient certainly has a diverticulitis of the stomach and large bowel. His red count is steadily falling on a high caloric, non-liver diet. He might have a chronic nephritis or a primary anemia.

The second case was presented by Dr. Fitzhugh. The patient, a boy of 14, came into the hospital with a complaint of weakness. His present illness, accompanied by pain in the abdomen, dates back to August 22. Loss of appetite and weakness sent him to the Out-door Department. He was seen three times there and was finally admitted to the hospital after he had lost ten pounds.

Physical examination showed furring of the tongue, a systolic murmur, fine râles over the lower lobe of the right lung, and marked mental lethargy. A high fluctuating temperature and

a positive Widal indicated typhoid, but positive urine and stool cultures were not obtained until October 8th. There were no rose spots nor was the spleen enlarged.

The case was presented as one of difficult diagnosis, the positive Widal being the only unquestionable evidence for more than a month.

A RECENT TYPHOID EPIDEMIC IN MONTREAL

BY DR. C. L. CONNOR

The cause of the recent Typhoid Epidemic in Montreal was for some time a mystery due to the suppression of information by the city officials. The first wave of infection came about the beginning of March, and the second the beginning of May. After the second wave inspection of the city showed the following picture:

Montreal is divided into three districts, Montreal proper, the city of Westmount, and the city of Verdon. Each one has its separate water supply. Since the first cases appeared simultaneously in Verdon and eastern Montreal, water supply inspection was ruled out.

It was discovered that most cases were in homes where there were children and in asylums. The milk was found to come from the same dairies. One-eighth of the milk supply for the city came from one dairy and in connection with this, 75% of the cases had taken milk from this same dairy. This conclusively proved the epidemic to be milk-borne.

The preventive measures the city had taken were poor and inefficient. There was only one milk inspector, one or two for meats, and a few for the 1200 odd farms giving milk to the city. Even though typhoid is endemic to Montreal, a rise from 6-8 cases a year to 5145 clearly showed that something had to be done.

An examination of the suspected plant was undertaken. A cream count showed thirteen million bacteria with some colon bacilli. Pasteurization made this count almost zero. The incoming milk was not handled till it was ready to deliver, and while one leaky valve was found, sufficient general contamination from this spot was improbable. A foreman was found who had had typhoid and showed the bacilli in the stools. Here again is hardly a gross factor in the infection. The fundamental cause was that at the time of the epidemic more milk came into the factory than was pasteurized, and was distributed to the public as raw milk.

Several means to combat the epidemic were tried. Some Life Insurance companies began vaccinating the public free of charge. About one-third of the cases were isolated. Two negative stools were required before the patient was allowed to leave the hospital. Finally, after the government had taken over the milk-plant, the epidemic ceased.

There was one case of epylitis, and there were several lesions of the esophagus. Autopsy on four of the five cases which died in the hospital

revealed death due to pneumonia in one case, severe toxemia in another, and two from perforation and hemorrhage.

Summing up the occurrence, there were 5145 cases in six months with 528 deaths, a mortality of 10.25%. The morbidity was 51 per 100,000. The age distribution showed 903 cases under 10 years of age and 718 under 20. There were two waves in the epidemic about a month apart. The epidemic was undoubtedly due to inadequately pasteurized milk, with some infection from ice-cream.

A WATER-BORNE EPIDEMIC OF TYPHOID FEVER IN
SALEM, OHIO

BY DR. HENRY A. CHRISTIAN

The town of Salem is one of some 9000 inhabitants with few of the poorer class of people. Its water supply is obtained from three sets of wells which drain into a central reservoir. In an attempt to save money, vitrified tile pipes with cement elbows were used for one collecting pipe, instead of iron pipe. Parallel to this ran a sewer line.

On October 9 and 10, 1920, 7000 of the 9000 inhabitants got diarrhea. The State Board of Health was called October 14th and came the 17th. It compared the occurrence of diarrhea in the rural districts and in the city, finding only 17% in the country and 63% in the city. On testing, the water in the three sets of wells was pure, but the basin contaminated. The water from two pipes was pure, but the water from the tile pipe was contaminated. This was blocked off and the water chlorinated. The epidemic immediately receded. Examination of the pipe line showed it to be cracked and was being contaminated by the also cracked sewer line.

The control of the epidemic was well organized with plenty of nurses furnished by the Red Cross and other agencies. The mortality was the lowest of any typhoid epidemic, being only 2.83%. This was probably due to the efficient nursing.

The meeting, which was well attended, was presided over by Dr. Rosenau.

HARVARD MEDICAL SCHOOL NEWS

A MEETING of the Physiological Conference was held November 2 at 4:00 o'clock in the Bowditch Library. Dr. R. W. Gerard spoke on "Heat Production and Metabolism in Nerve."

Dr. Gerard pointed out that only with the introduction of electricity in the study of nerve conduction have the old ideas given way to the new. In 1912 A. V. Hill attempted to find the amount of heat production in nerve. He failed for two reasons, first, because his apparatus was not sensitive enough, and second, because he did not take into consideration the possibility of heat production after conduction had taken

place. The apparatus now employed consists of two galvanometers, sensitized to 2×10^{-12} amperes, so that sufficient amplification at least of 1 mm. on the second galvanometer is attained. By this apparatus it was found that with 280 shocks per second the isolated sciatic nerve produced 6.9×10^{-5} calories per gram of nerve per second. The periods of heat production are divided into the initial, delayed, and recovery phases, 89% of the total heat appearing in the delayed heat. The heat per single shock was not $1/280$ of above result, but after one sigma and one shock the heat was four times as much.

A study of heat production of a nerve in the absence of oxygen was also made. The lack of oxygen lowers the curve, but the same ratio between the heat phases is maintained. The resting nerve produces heat one-third as much as in oxygen. The ratio of O_2 consumption in the resting and active nerve is maintained the same for hours, showing that the element of fatigue has little in inhibiting the activity of nerve tissue. A study of the R.Q. shows that carbohydrates are the fuel for nerve activity and that all activity's ultimate source of energy is chemical oxidation.

A measurement of the lactic acid production showed that the most produced was 100 mg.% which equals the carbohydrate content of nerve. The only sugar that could keep up the level of production was glucose. A larger percentage accumulation of lactic acid in nerve was observed, even after four hours' stimulation when only a bare 10% increase was noticed.

Two questions were answered by Dr. Gerard. He explained the fact that a nerve can conduct impulses for about two hours in the absence of O_2 by showing that first, lactic acid is not accumulating, and second, that a nerve will take up more than the usual normal amount of O_2 after asphyxiation. This can only lead to the conclusion that O_2 is stored chemically, possibly in glutathione or cytothione. The second question of how the delayed heat production and reaction of a nerve effect the nerve conduction he explained by theory, in which he supposes that certain substances bring about reactions which may produce other unknown reactions. The use of the accessory substance produces the refractory period. When it again builds up, we have the relative refractory period. If the basic substance is used up, fatigue follows.

Dr. Gerard also pointed out that ammonia was formed by nerve activity, and that there were other nutrition of changes, analogous to muscle metabolism.

SOCIETY MEETINGS

November 4-17—The twenty-first annual meeting of the Southern Medical Association will be held in Memphis, Tenn. Detailed notice, page 372, the issue of September 1.

November 10—Massachusetts General Hospital, staff meeting. Detailed notice appeared on page 811 of the issue of November 3.

November 11—New England Pediatric Society. Detailed notice appears page 882, this issue.

November 14—Boston Orthopedic Club. See page 815 of the issue of November 3 for complete notice.

November 16—Massachusetts Society for Mental Hygiene. For detailed notice see page 882, this issue.

November 17—Eighty-first Anniversary Meeting of the New York Academy of Medicine. See page 882, this issue.

November 18—Boston Medical History Club. See detailed notice on page 811 of the issue of November 3.

November 18-19—Annual Conference of Secretaries of Constituent State Medical Associations. Chicago. Detailed notice appeared on page 816 of the issue of November 3.

DISTRICT MEDICAL SOCIETIES

Berkshire District Medical Society

November 10—Complete notice page 881, this issue.

Essex North District Medical Society

January 4, 1928 (Wednesday)—Semi-annual meeting at the Canton Church vestries, Main Street, Haverhill, at 12:30 P. M.

May 2, 1928 (Wednesday)—Annual meeting at 12:30 P. M.

May 3, 1928 (Thursday)—Censors meet for examination of candidates at Hotel Bartlett, 95 Main Street, Haverhill, at 2 P. M. Candidates should apply to the Secretary, J. Forrest Burnham, M.D., 567 Haverhill Street, Lawrence, at least one week prior.

Essex South District Medical Society

December 7 (Wednesday)—Beverly Hospital. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. P. E. Truesdale, Fall River, "Modern Trends of Medical Practice."

Discussion by Drs. P. P. Johnson and C. H. Phillips of Beverly, 10 minutes each, and from the floor.

January 4, 1928 (Wednesday)—Deer Cove Inn, Swampscott. Dinner at 7 P. M.

Dr. Frank Lahey, "Differential Points of Importance to the General Practitioner in Surgical Diagnosis."

Discussion by Drs. Walter Phippen of Salem and N. P. Breed of Lynn, 10 minutes each, and from the floor.

February 1 (Wednesday)—Council meeting, Boston.

February 8 (Wednesday)—Danvers State Hospital. Clinic at 4 P. M. Buffet supper at 6 P. M., followed by

Dr. Abraham Myerson, "Some Aspects of Mental Hygiene."

Discussion by Drs. W. F. Wood of Hathorne and G. M. Kline of Beverly, 10 minutes each, and from the floor.

March 7 (Wednesday)—Lynn Hospital. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. Henry R. Viets, "The Acute Infections of the Nervous System," with lantern slides and moving pictures.

Discussion by Drs. W. V. McDermott of Salem and J. W. Trask of Lynn, 16 minutes each, and from the floor.

April 11 (Wednesday)—Essex Sanatorium, Middleton. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. Raymond S. Titus, "Obstetrical Emergencies."

Discussion by Drs. J. J. Egan of Gloucester and A. T. Hawes of Lynn, 10 minutes each, and from the floor.

May 3 (Thursday)—Censors meet at Salem Hospital for the examination of candidates at 2:30 P. M. Candidates should apply to the Secretary, Dr. R. E. Stone, Beverly, at least one week prior.

May 8 (Tuesday)—Annual meeting. Place and speaker to be announced.

Middlesex South District Medical Society

November 10—(Note date. It was incorrectly given in this column in our issue of November 3.) Censors' meeting for the examination of candidates at the Colonial Club, 29 Quincy Street, Cambridge, at 4 P. M.

Suffolk District Medical Society

Combined meetings of the Suffolk District Medical Society and the Boston Medical Library will be held at the Boston Medical Library, 8 The Fenway, at 8:15 P. M., as follows:

November 16—Surgical Section. "Stomach Surgery." Dr. Donald C. Balfour, Mayo Clinic.

December 28—Medical Section. "Functions and Organization of the Boston City Hospital."

January 25, 1928—General meeting in association with the Boston Medical Library.

Dr. George W. Crile, Lakeside Clinic, Cleveland, Ohio. Title to be announced later.

February 29—Surgical Section. Subject to be announced later.

March 28—Medical Section. "The Use and Misuse of Vaccines." Dr. Hans Zinsser, Dr. Francis M. Rackemann, Dr. Charles H. Lawrence.

April 25—Annual meeting. Election of officers. Paper of the evening to be announced later.

The medical profession is cordially invited to attend these meetings.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

BOOK REVIEWS

To Whom It May Concern, A Popular Address About Smallpox and Vaccination. By DR. WANKLYN. 34 pages. Published by The Voluntary Service Fund, London.

This is a small monograph consisting of the essence of numerous addresses and lectures which have been given by the author during the last thirteen years. It puts the case in favor of vaccination before the lay public in a very forceful manner. Dr. Wanklyn has had much personal experience with smallpox, having served as medical superintendent at the reviewing station during the 1901-03 epidemic, during which he admitted about ten thousand cases. This is one of the most convincing expositions which we have seen of the value of vaccination in the management of smallpox.

Management of the Sick Infant. By LANGLEY PORTER, B.S., M.D., M.R.C.S. (Eng.), L.R.C.P. (Lond.) Professor of Clinical Pediatrics, University of California Medical School, and WILLIAM E. CARTER, M.D., Instructor in Pediatrics, University of California Medical School, San Francisco. Third Revised Edition, illustrated. St. Louis, The C. V. Mosby Company, 1927.

This textbook differs from most large pediatric textbooks in that it is confined to the age of infancy and excludes the diseases of childhood. It is well written and profusely and clearly illustrated, containing a long and valuable section on Methods. The use of the longitudinal sinus for the injection of blood and other fluids would seem to be over-emphasized to those who have doubts as to the safety of such a procedure. Pylorospasm and hypertrophic stenosis of the pylorus are not clearly differentiated. The injection of 1/10 c.c. undiluted diphtheria antitoxin is recommended in testing for sensitization; this dosage might be fatal to a highly sensitive individual.

No textbook could be written with which critics would not disagree on certain points; in general Porter and Carter take high rank among the best which have come to our notice.

Manual of Bacteriology. By ROBERT MUIR, M.A., M.D., Sc.D., LL.D., F.R.S., Professor of Pathology, University of Glasgow, and the late JAMES RITCHIE, M.A., M.D., F.R.C.P. (Ed.), late Irvine Professor of Bacteriology, University of Edinburgh, formerly Fellow of New College, Oxford. (Eighth Edition.)

This Manual has been one of the standard books in Bacteriology in this country and in England for the last twenty-five years and represents the eighth edition. The reviewer is familiar with them all and can say without reservation that each edition has been an improvement upon the preceding one, and this last is no exception.

It is particularly gratifying to note that full recognition has been given to recent work in America. Important additions have been made from the knowledge gained during the War from the study of the bacteriology of wound infections. Immunology is well covered in chapters devoted to a general consideration of the subject and more specifically in the treatment of individual micro-organisms. The chapters devoted to technique are particularly good. After a fairly careful reading of the book the reviewer can find nothing of importance to take viewer can find nothing of importance to which exception may be taken and is led to express his admiration for the splendid manner in which the authors have covered the enormous field of bacteriology and related subjects in a small volume.

The Bibliography is unusually extensive for a students' textbook and again exhibits keen judgment of the authors inasmuch as they have thereby made the book of great value for advanced workers in bacteriology. All in all, the Manual, in the opinion of the reviewer, ranks as the best textbook published in England for the use of medical students. For physicians and biologists who wish a reliable, complete and well-written Manual for handy reference the book is strongly recommended.

Reizbildung und Erregungsteilung im Wirbeltierherzen. (Stimulus Production and Conduction in the Vertebrate Heart). By LUDWIG HABERLANDT, Professor of Physiology at the University of Innsbruck. 175 pages, 39 illustrations. J. F. Bergmann, Munich, 1926.

Haberlandt has written an interesting and detailed account of the old controversy between the advocates of the neurogenic theory and those supporting the myogenic theory of the heart beat. He recites old evidence which in the middle of the eighteenth century initiated the neurogenic theory, based largely on the discovery of intracardiac ganglia by Remak, Ludwig, and Bidder. Then he proceeds to tell of the gradual finding of evidence which has at last won fairly complete victory for the myogenic theorists. A recent discovery by Haberlandt himself appears to be one of the most conclusive

arguments for the myogenic theory of the heart beat; this consists in the finding that the musculature of the apex of the frog's heart still responds to stimuli and may contract regularly and spontaneously even after separation from the base for several weeks or months sufficient to cause degeneration of all nerve fibers (proved by special histological staining methods). The continuation of the heart to contract under the influence of certain nerve poisons and its cessation when muscle poisoning is accomplished is also, obviously, an important argument. The old observation that an embryonic heart may begin to pulsate before the development of nerves, is less stressed inasmuch as none of the tissues, including that of heart muscle itself, are well differentiated at that early stage in development.

The book is in part a kind of final (?) shot against the few who may still adhere to the old "neurogenic" theory. However, the obviously close association anatomically and physiologically between muscle and nerve cells throughout the heart, particularly in the region of the sinoauricular and auriculoventricular nodes and the bundle of His and its branches, or their analogues in cold blooded vertebrates, makes it rather idle to speak of distinctive neurogenic and myogenic theories. Some have advocated a compromise terminology "the neuromyogenic cardiac action" (Neuromyogene Herztätigkeit).

Conduction of the stimulus as well as its production is discussed in the book but much more briefly. The arguments are much the same.

Finally Haberlandt discusses his finding of an extract from the frog's heart, not isolated as yet, but which may be obtained in solution by immersing the sinus venosus in Ringer's solution. Ringer's solution treated in this way has been found by Haberlandt to be more effective in reviving hearts that have stopped or in increasing the rate of amplitude of contraction of frog's heart muscle, than is Ringer's solution untreated or Ringer's solution in which the ventricular apex had been immersed. The extract has been labelled "hormone" by Haberlandt. It is apparently soluble in alcohol and insoluble in ether. It is more effective at warm than at cold temperatures. The author refers to somewhat similar findings by Demoor in respect to the warm blooded heart. In a final paragraph Haberlandt suggests that this heart hormone may prove to be of value in the treatment of heart disease.

A bibliography of 452 references is appended to this volume.

Emergencies of a General Practice. By NATHAN C. MORSE, M.D. and AMOS W. COLCORD, M.D. St. Louis. C. V. Mosby Co., 1927.

This book is a thorough revision by Dr. Colcord of the work which the late Dr. Morse wrote

to assist the general practitioner in the management of the more common emergencies. The scope is so broad that the task is a tremendously difficult one to handle in the space of 541 pages. It discusses general principles and equipment for first aid; removal of foreign bodies wherever situated, e.g.: in trachea; asphyxiation; treatment of wounds including operations for lacerated intestines; acute abdominal diseases; fractures; sprains; burns; amputations; obstetric emergencies; medical emergencies from ophthalmia neonatorum to apoplexy; and a long list of external and internal poisons. It is inevitable that a book which touches the entire realm of medicine with all its specialties in one small volume cannot be thorough with any. On the other hand describing the technic of abdominal operations and other comparable procedures in such brief space seems of questionable value. However, the book contains a great number of valuable suggestions and should prove especially useful to the physician in a rural community where consultants are not readily available.

Physical Diagnosis (Ninth Edition). By RICHARD C. CABOT, M.D., Prof. of Medicine at Harvard University. Published by William Wood and Co., New York. 536 pages.

Except for the following changes, the ninth edition of Dr. Cabot's textbook on Physical diagnosis is the same as the eighth. In the sections dealing with heart sounds and murmurs, numbers are given which correspond to the Gamble-Cabot Cardiac Diagnosis Records which are to be marketed by the Columbia-Phonograph Company of New York. Short paragraphs are added on the "soldier's heart" and infectious mononucleosis. In the Laboratory Section, a description of the Levy counting chamber replaces that of the Thoma-Zeiss counting slide.

Unfortunately only a very few of the mechanical errors of the previous edition have been corrected. There are at least ten mistaken references to figures; an index in which approximately one-fourth of the references miss the mark by at least a page; and more than the ordinary number of typographical errors.

The book, of course, remains a standard work on physical diagnosis and is valuable for its completeness and outline form. It is especially useful for beginners, but by reason of its self-imposed limitations is not as interesting reading as some of the more specialized works which give more space to the explanations of the different physical findings.

BOOKS RECEIVED FOR REVIEW

Manual of the Diseases of the Eye. By Charles H. May. New York: William Wood & Co. 445 pages. Price, \$4.

Researches in Polynesia and Melanesia. By Pat-

rick A. Buxton and G. H. E. Hopkins. London: The London School of Hygiene and Tropical Medicine. 212 pages.

The Surgical Clinics of North America. June, 1927. Vol. 7, No. 3. Philadelphia: W. B. Saunders Company. 329 pages. \$12 per year.

Potassium and Tartrates. By Ralph W. Webster. Chicago: The Commonwealth Press. 168 pages.

Physical Diagnosis. By Richard C. Cabot. New York: William Wood & Co. 536 pages. Price, \$5.

Pharmaceutical Botany. By Heber W. Youngken. Philadelphia: P. Blakiston's Son & Co. 692 pages. Price, \$5.

Studies from the Rockefeller Institute for Medical Research. Vol. LXI. Baltimore: Williams & Wilkins. 606 pages.

The Medical Department of the United States Army in the World War. Vol. II—Administration—American Expeditionary Forces. Washington: Government Printing Office. 1123 pages. Price, \$3.40.

The Anatomy of the Nervous System. By Stephen W. Ranson. Philadelphia: W. B. Saunders. 425 pages. Price, \$6.50.

Diagnosis and Treatment of Diseases of the Stomach. By Martin E. Heftuss. Philadelphia: W. B. Saunders. 1236 pages. Price, \$12.

To Whom It May Concern: A Popular Address About Smallpox and Vaccination. By Dr. Wanklyn. London: Voluntary Service Fund. 34 pages.

Dreams. By Percy G. Stiles. Cambridge: Harvard University Press. 80 pages. Price, \$1.50.

A Textbook of Histology. By Frederic T. Lewis and J. L. Bremer. Philadelphia: P. Blakiston's Son. 551 pages. Price, \$6.

Fistula of the Anus and Rectum. By Charles J. Drueck. Philadelphia: F. A. Davis Company. 318 pages. Price, \$3.50.

Feeding and the Nutritional Disorders in Infancy and Childhood. By Julius H. Hess. Philadelphia: F. A. Davis. 566 pages. Price, \$4.50.

Surgical Diseases of the Gall-Bladder, Liver and Pancreas and Their Treatment. By Moses Behrend. Philadelphia: F. A. Davis. 278 pages. Price, \$4.

The Science and Practice of Surgery. By W. H. C. Romanis and Phillip H. Mitchiner. New York: William Wood & Co. Two volumes. Price, \$12.

The Ship Sails On. By Grieg. New York. Alfred A. Knopf.

Minor Surgery. By Arthur E. Hertzler and Victor E. Chesky. St. Louis: C. V. Mosby Company. 568 pages. Price, \$10.

Emergencies of a General Practice. By Nathan Clark Morse. St. Louis: C. V. Mosby Company. 541 pages. Price, \$10.

Gonococcal Infection in the Male. By Abr. L. Wolbarst. St. Louis: C. V. Mosby Company. 237 pages. Price, \$5.50.

Clinical Case Taking. By George R. Herrmann. St. Louis: C. V. Mosby Company. 90 pages. Price, \$1.50.

Getting Well and Staying Well. By John Potts. St. Louis: C. V. Mosby Company. 223 pages. Price, \$2.

International Clinics. Vol. III—September, 1927. Philadelphia: J. B. Lippincott Company. 311 pages.

Modern Medicine. Vol. V. Philadelphia: Lea & Febiger. 948 pages. Price, \$9.

Clinical Diagnosis by Laboratory Methods. By James Campbell Todd and Arthur Hawley Sanford. Philadelphia: W. B. Saunders Company. 748 pages. Price, \$6.

Infectious Diseases and Aseptic Nursing Technique. By D. L. Richardson. Philadelphia: W. B. Saunders Company. 182 pages. Price, \$1.50.

Bronchoscopy and Esophagoscopy. By Chevalier Jackson. Philadelphia: W. B. Saunders Company. 457 pages. Price, \$8.

A Textbook of Therapeutics. By A. A. Stevens. Philadelphia: W. B. Saunders Company. 758 pages. Price, \$6.50.